

AU_ID	ID_2016	AU_NAME
KY-135	KY485958_01	Angle Creek 0.0 to 0.8
KY-3268		Axel Creek 2.7 to 4.7
KY-153	KY486197-29.85_01	Bacon Creek UT 0.0 to 3.25
KY-2909		Barren River 105.2 to 118.7
KY-2858		Bayou de Chien 8.8 to 13.3
KY-193	KY486553_02	Bear Creek 3.4 to 6.7
KY-194	KY486554_01	Bear Creek 8.05 to 12.75
KY-201	KY486609_01	Beaver Creek 8.55 to 15.8
KY-212	KY486678_01	Bee Lick Creek 0.0 to 5.7
KY-3150		Bennett Branch 0.0 to 2.7
KY-232	KY486913_01	Berry Creek 0.0 to 3.1
KY-2732		Big Reedy Creek 0.0 to 7.3
KY-282	KY487412_01	Blackford Creek 0.0 to 3.8
KY-324	KY487968_01	Brooks Run 0.0 to 2.7
KY-324	KY487968_01	Brooks Run 0.0 to 2.7
KY-325	KY487968_02	Brooks Run 2.7 to 4.35
KY-325	KY487968_02	Brooks Run 2.7 to 4.35
KY-326	KY487968_03	Brooks Run 4.35 to 6.4
KY-326	KY487968_03	Brooks Run 4.35 to 6.4
KY-23	KY487968-4.3_01	Brooks Run UT 0.0 to 2.0
KY-23	KY487968-4.3_01	Brooks Run UT 0.0 to 2.0
KY-25	KY488068_01	Brush Creek 0.0 to 1.8
KY-328	KY488069_01	Brush Creek 0.0 to 2.4
KY-2116	KY510974_02	Brushy Creek 8.0 to 16.5
KY-2117	KY510977_01	Brushy Fork 0.0 to 4.5
KY-3266		Buck Horn Creek 0.0 to 5.75
KY-2139	KY511100_01	Butler Creek 0.0 to 4.1
KY-430	KY488897_01	Canoe Creek 0.0 to 3.95
KY-430	KY488897_01	Canoe Creek 0.0 to 3.95
KY-432	KY488897_03	Canoe Creek 14.6 to 23.95
KY-431	KY488897_02	Canoe Creek 3.95 to 14.5
KY-433	KY488897-19.8_01	Canoe Creek UT 0.0 to 1.0
KY-456	KY489183_01	Cedar Creek 4.3 to 12.1
KY-473	KY489392_01	Chenoweth Run (Upper) 0.0 to 4.05
KY-475	KY489424_02	Chestnut Creek 3.2 to 5.05
KY-476	KY489424-1.05_01	Chestnut Creek UT 0.0 to 2.9
KY-487	KY489552_07	Clarks River 52.1 to 55.5
KY-512	KY489591_03	Claylick Creek 10.8 to 14.0
KY-510	KY489591_01	Claylick Creek 2.05 to 4.85
KY-511	KY489591_02	Claylick Creek 4.85 to 10.8
KY-3283		Clement Creek 0.0 to 4.75
KY-2171	KY511409_01	Clifty Creek 0.0 to 2.7
KY-2172	KY511423_01	Clover Fork Cumberland River 0.0 to 6.7
KY-533	KY489769_01	Coefield Creek 0.0 to 8.9
KY-3136		Company Branch 0.0 to 1.75
KY-3284		Cox Spring Branch 0.0 to 2.75
KY-3285		Cox Spring Branch UT 0.0 to 1.55
KY-3137		Crafts Colly Creek 0.0 to 5.75
KY-2201	KY511649_01	Crooked Creek 0.0 to 12.1
KY-2757		Crooked Creek 12.1 to 18.1
KY-2756		Crooked Creek 18.1 to 26.4
KY-2203	KY511649-8.3_01	Crooked Creek UT 0.0 to 1.95
KY-2641	KY517018_11	Cumberland River 677 to 688.9

KY-588	KY490526_01	Cypress Creek 0.0 to 6.0
KY-617	KY490528_01	Cypress Creek 0.0 to 6.25
KY-3279		Cypress Creek 11.5 to 12.8
KY-3281		Cypress Creek 13.7 to 14.85
KY-3275		Cypress Creek UT 0.1 to 1.3
KY-3271		Damon Creek 2.1 to 4.65
KY-624	KY490588_01	Darby Creek 0.0 to 1.3
KY-625	KY490588_02	Darby Creek 1.3 to 3.4
KY-626	KY490588_03	Darby Creek 3.4 to 5.9
KY-627	KY490589_01	Darby Fork 0.0 to 1.55
KY-628	KY490589_02	Darby Fork 1.55 to 2.85
KY-635	KY490816_01	Dennis O'Nan Ditch 0.2 to 5.2
KY-3270		Doan Spring Creek UT 0.0 to 2.3
KY-2877		Doe Run 5.2 to 8.3
KY-651	KY491096_01	Drakes Creek 0.0 to 23.4
KY-3286		Dry Creek 0.0 to 2.25
KY-3287		Dry Creek 2.25 to 6.5
KY-3288		Dry Creek UT 0.0 to 2.0
KY-3139		Dry Fork 0.0 to 2.1
KY-3140		Dry Fork 2.1 to 4.55
KY-3289		Dry Fork Creek 0.0 to 1.9
KY-3141		Dry Fork UT 0.0 to 1.5
KY-684	KY491444_01	East Fork Canoe Creek 0.0 to 7.85
KY-711	KY491607_01	Elam Ditch 0.0 to 5.3
KY-712	KY491607-2.8_01	Elam Ditch UT 0.0 to 0.82
KY-720	KY491660_02	Elk Fork 22.4 to 30.3
KY-721	KY491660_03	Elk Fork 30.3 to 32.45
KY-723	KY491660-26.4_01	Elk Fork UT 0.0 to 4.8
KY-775	KY492278_02	Floyds Fork 11.7 to 24.2
KY-603	KY492278_06	Floyds Fork 45.7 to 61.9
KY-780	KY492390_01	Fourmile Creek 0.2 to 8.3
KY-822	KY493014_01	Goose Creek 0.05 to 3.3
KY-823	KY493014_02	Goose Creek 3.3 to 12.85
KY-835	KY493267_01	Green Creek 0.0 to 8.15
KY-836	KY493267_02	Green Creek 8.45 to 13.25
KY-850	KY493284_14	Green River 327.3 to 342.9
KY-2970		Green River 71.0 to 85.1
KY-3325		Greenbrier Creek 0.0 to 0.95
KY-3326		Greenbrier Creek 3.45 to 5.5
KY-3292		Hancock Creek 0.0 to 4.2
KY-881	KY493672_01	Hancock Creek 4.2 to 7.6
KY-3293		Hancock Creek UT of UT 0.0 to 1.15
KY-905	KY493826_01	Harrods Creek 0.05 to 3.2
KY-908	KY493826_04	Harrods Creek 27.3 to 33.3
KY-924	KY494210_01	Highland Creek 0.0 to 7.65
KY-925	KY494210_02	Highland Creek 7.65 to 21.15
KY-925	KY494210_02	Highland Creek 7.65 to 21.15
KY-3151		Hinkston Creek UT 0.0 to 1.7
KY-3057		Hinkston Creek UT 0.0 to 1.9
KY-3148		Hinkston Creek UT 0.0 to 2.3
KY-3149		Hinkston Creek UT 0.0 to 2.4
KY-944	KY494492_02	Hood Creek 0.8 to 5.3
KY-959	KY494758_02	Humphrey Creek 3.4 to 11.25
KY-985	KY495045_01	Island Creek 0.0 to 5.6

KY-3308		Johnson Creek 0.90 to 7.3
KY-3152		Lane Branch 0.0 to 3.1
KY-1093	KY496604_01	Little Barren River 0.0 to 9.8
KY-1110	KY496700_01	Little Cypress Creek 0.0 to 3.4
KY-1126	KY496745_01	Little Goose Creek 0.0 to 9.5
KY-3263		Little Pitman Creek 11.4 to 14.45
KY-1146	KY496838_02	Little River 20.7 to 30.1
KY-1151	KY496857_01	Little Sandy River 0.0 to 0.15
KY-1165	KY496894_01	Little Whippoorwill Creek 0.0 to 4.1
KY-1166	KY496894_02	Little Whippoorwill Creek 4.1 to 7.0
KY-1175	KY496941_01	Locust Creek 0.0 to 4.25
KY-2396	KY513739_01	Lynn Camp Creek 0.8 to 4.3
KY-1237	KY497628_03	Martins Fork Cumberland River 17.7 to 19.5
KY-3259		Martis Branch 0.0 to 4.15
KY-1245	KY497717_02	Mayfield Creek 10.65 to 16.0
KY-1248	KY497717_08	Mayfield Creek 37.7 to 40.4
KY-3291		McHaley Creek 1.7 to 2.2
KY-1317	KY498268_01	Mill Creek 0.0 to 9.8
KY-1319	KY498275_01	Mill Creek Cutoff 0.0 to 2.3
KY-2422	KY514033_01	Mitchell Creek 0.0 to 3.85
KY-1345	KY499036_01	Muddy Creek 0.1 to 5.9
KY-1353	KY499043_01	Muddy Fork Little River 2.4 to 6.6
KY-1389	KY499544_01	North Fork Canoe Creek 0.0 to 8.05
KY-1391	KY499547_01	North Fork Currys Fork 0.0 to 6.0
KY-1417	KY499767_01	Obion Creek 1.35 to 16.5
KY-2925		Otter Creek 0.0 to 8.5
KY-2926		Otter Creek 8.5 to 9.7
KY-2883		Otter Creek 9.7 to 10.9
KY-1464	KY500387_01	Pennsylvania Run 0.0 to 3.3
KY-1480	KY500729_02	Piney Creek 17.25 to 25.45
KY-2462	KY514627_01	Pitman Creek 5.4 to 6.0
KY-1481	KY500832_01	Pleasant Grove Creek 0.0 to 2.3
KY-1482	KY500905_01	Pleasant Run 0.0 to 2.15
KY-1510	KY501042_07	Pond Creek 17.9 to 21.2
KY-1524	KY501053_04	Pond River 57.7 to 61.2
KY-3012		Poor Fork Cumberland River 1.2 to 14
KY-2476	KY514748_01	Powder Mill Creek 0.0 to 4.95
KY-1540	KY501310_01	Pretty Run 0.0 to 8.1
KY-1559	KY501672_01	Red River 50.9 to 54.5
KY-1560	KY501672_02	Red River 54.5 to 56.90
KY-1561	KY501672_03	Red River 56.9 to 65.75
KY-1563	KY501672_05	Red River 74.3 to 81.3
KY-2503	KY514993_03	Roaring Paunch Creek 15.6 to 15.75
KY-2807		Rough River 125.0 to 137.8
KY-3143		Sandlick Creek 0.0 to 4.75
KY-1690	KY503159_01	Sellers Ditch 0.0 to 1.4
KY-1698	KY503285_01	Shawnee Creek 0.0 to 3.4
KY-1716	KY503559_01	Sinking Creek 0.0 to 3.3
KY-2544	KY515434_03	Sinking Creek 15.5 to 39.9
KY-2543	KY515434_02	Sinking Creek 8.85 to 15.5
KY-1718	KY503569_01	Sinking Fork 2.1 to 5.65
KY-1743	KY503833_01	Snag Creek 1.1 to 6.55
KY-3327		South Fork Currys Fork 0.0 to 5.3
KY-3327		South Fork Currys Fork 0.0 to 5.3

KY-3327		South Fork Currys Fork 0.0 to 5.3
KY-3328		South Fork Currys Fork UT 0.0 to 0.8
KY-3328		South Fork Currys Fork UT 0.0 to 0.8
KY-3328		South Fork Currys Fork UT 0.0 to 0.8
KY-1759	KY503919-3.9_01	South Fork Currys Fork UT 0.0 to 1.8
KY-1759	KY503919-3.9_01	South Fork Currys Fork UT 0.0 to 1.8
KY-1760	KY503920_01	South Fork Darby Creek 0.0 to 3.95
KY-1778	KY503939_01	South Fork Panther Creek 0.0 to 2.4
KY-1783	KY503943_01	South Fork Red River 0.0 to 5.3
KY-1786	KY503961_01	South Long Run 0.0 to 3.6
KY-1786	KY503961_01	South Long Run 0.0 to 3.6
KY-1786	KY503961_01	South Long Run 0.0 to 3.6
KY-3272		Stice Creek 1.3 to 5.1
KY-1868	KY504760_01	Sulphur Spring Creek 0.0 to 6.6
KY-1882	KY505081_01	Terrapin Creek 2.8 to 7.0
KY-1390	KY499544-0.7_01	Tiger Ditch 0.0 to 0.8
KY-17	KY1699857_01	Town Branch 0.0 to 3.35
KY-3264		Trace Fork 0.0 to 1.25
KY-3265		Trace Fork 2.3 to 6.95
KY-1974	KY506424_01	West Fork Canoe Creek 0.0 to 7.75
KY-1975	KY506424-3.4_01	West Fork Canoe Creek UT 0.0 to 2.2
KY-1986	KY506431_01	West Fork Drakes Creek 0.0 to 23.25
KY-2000	KY506444_01	West Fork Pond River 1.8 to 6.3
KY-4	KY1269347_01	West Fork Red River 14.65 to 26.8
KY-2615	KY516320_01	White Oak Creek 0.0 to 1.0
KY-2031	KY506898_01	Wilson Creek 0.0 to 2.15
KY-2033	KY506900_01	Wilson Creek 0.0 to 6.9

AU_DESCRIPTION	WATERBODY_TYPE
Mouth to CR 1374 (Calvert City Road)	River/Stream
Powerline crossing to headwaters	River/Stream
Mouth to Pond	River/Stream
Lake Backwaters to La Fayette Water District	River/Stream
Rush Creek to Midway Between KY-239 and US-51 Bridges	River/Stream
Backwaters to Headwaters	River/Stream
Caney Hollow to Beaverdam Creek	River/Stream
South Fork of Beaver Creek to Railroad trestle	River/Stream
Mouth to Warren Branch	River/Stream
Mouth to headwaters	River/Stream
Mouth to Headwaters	River/Stream
Mouth to UT at approximately RM 7.3	River/Stream
Backwater of the Ohio River to Little Blackford Creek	River/Stream
Mouth to Joy Lane	River/Stream
Mouth to Joy Lane	River/Stream
Joy Lane to UT	River/Stream
Joy Lane to UT	River/Stream
Confluence with UT to 0.1 mile above Coral Ridge Road	River/Stream
Confluence with UT to 0.1 mile above Coral Ridge Road	River/Stream
Mouth to Headwaters	River/Stream
Mouth to Headwaters	River/Stream
Mouth to UT of Brush Creek	River/Stream
Mouth to UT near SR1121	River/Stream
Bee Lick Creek to Headwaters	River/Stream
Mouth to Headwaters	River/Stream
mouth to headwaters	River/Stream
Mouth to Contiguous Buffer	River/Stream
Backwater of Ohio River to Wilson Creek	River/Stream
Backwater of Ohio River to Wilson Creek	River/Stream
Sellers Ditch to Headwaters	River/Stream
Wilson Creek to Sellers Ditch	River/Stream
UT of UT of Canoe Creek to UT of UT of Canoe Creek	River/Stream
Pennsylvania Run to Cedar Creek WWTP Outfall	River/Stream
Mouth to Headwaters	River/Stream
Impoundment to Headwaters	River/Stream
Mouth to Pond at Headwaters	River/Stream
Rockhouse Creek to land use change	River/Stream
Clement Creek to Preacher Creek	River/Stream
Axel Creek to Pickett Springs Creek	River/Stream
Puckett Spring Creek to Clement Creek	River/Stream
Mouth to headwaters	River/Stream
Mouth to Rocky Branch	River/Stream
Mouth to Yocum Creek	River/Stream
Mouth to Kit Love Branch	River/Stream
Mouth to headwaters	River/Stream
Sink to headwaters	River/Stream
Mouth to headwaters	River/Stream
Mouth to headwaters	River/Stream
Mouth to Butler Creek	River/Stream
Butler Creek to Rush Creek	River/Stream
Rush Creek to City Lake Dam	River/Stream
Mouth to Contiguous riparian zone	River/Stream
Between confluences of Laurel Branch and Mile Branch (downstream of Wallin River/Stream	

Mouth to Pond Drain	River/Stream
Little Cypress Creek to Camp Creek	River/Stream
I-24 to Little John Creek confluence	River/Stream
above Stice Creek confluence to UT above English Rd. bridge	River/Stream
Above confluence of UT to UT to the headwaters	River/Stream
pond backwaters to headwaters	River/Stream
Mouth to South Fork Darby Creek	River/Stream
South Fork Darby Creek to UT	River/Stream
UT to Headwaters	River/Stream
Mouth to Near Mouth of UT/Land Use Change	River/Stream
Near UT/Land Use Change to Headwaters	River/Stream
Ohio River backwater to Cypress Creek	River/Stream
Sink to headwaters	River/Stream
KY-1638 Old Mill Road to Headwaters	River/Stream
Mouth to Middle and West Fork of Drakes Creek	River/Stream
Sink to UT with Crodson Creek	River/Stream
UT with Crodson Creek to headwaters	River/Stream
Mouth to pond near headwaters	River/Stream
Mouth to mine portal	River/Stream
Mine portal to headwaters	River/Stream
Mouth to land use change (where forested corridor begins)	River/Stream
Mouth to headwaters	River/Stream
Mouth to Headwaters	River/Stream
Mouth to UT	River/Stream
Mouth to UT to UT to Elam Ditch	River/Stream
Dry Branch to confluence of UT (in Elkton)	River/Stream
Confluence of UT to UT	River/Stream
Elk Fork to Headwaters	River/Stream
Wells Run to Chenoweth Run	River/Stream
UT at County Line to Headwaters	River/Stream
Ohio River Backwaters to UT (Pump station)	River/Stream
Ohio River Backwaters to I-71	River/Stream
I-71 to Headwaters	River/Stream
Mouth to below Pond	River/Stream
Above Pond to UT	River/Stream
Green River Lake backwaters to South Fork Green River	River/Stream
Rough River to Central City Municipal Water & Sewer	River/Stream
Mouth to Greenbrier Creek Reservoir	River/Stream
Greenbrier Creek Reservoir to Headwaters	River/Stream
Mouth to UT below railroad track	River/Stream
Upstream of UT to Headwaters	River/Stream
Mouth to headwaters	River/Stream
Ohio River Backwaters to Wolfpen Branch	River/Stream
Berry Creek to Headwaters	River/Stream
Mouth to Pond Creek	River/Stream
Pond Creek to Beaverdam Creek	River/Stream
Pond Creek to Beaverdam Creek	River/Stream
Mouth to headwaters	River/Stream
Mouth to Headwaters	River/Stream
Mouth to headwaters	River/Stream
Mouth to headwaters	River/Stream
US 60 to Roadhouse Fork	River/Stream
Clanton Creek to Humphrey Slough	River/Stream
Mouth to Champion Creek	River/Stream

UT to pond in headwaters	River/Stream
Mouth to headwaters	River/Stream
Mouth to Trammel Creek	River/Stream
Mouth to Angle Creek	River/Stream
Goose Creek to Headwaters	River/Stream
Trace Fork to headwaters	River/Stream
Sinking Fork to Potts Creek	River/Stream
Ohio River to Outfall	River/Stream
Mouth to Pleasant Run	River/Stream
Pleasant Run to Headwaters	River/Stream
Mouth to Goose Creek	River/Stream
Laurel River Reservoir Backwaters to East Fork	River/Stream
Reservoir Backwaters to Rough Branch	River/Stream
Mouth to Headwaters	River/Stream
West Fork of Mayfield Creek to Wilson Creek	River/Stream
Cooley Creek to Key Creek	River/Stream
Approximately 0.05 river miles downstream CR1205 to headwaters	River/Stream
Mouth to Below Cutoff	River/Stream
Mouth to Pump Station	River/Stream
Mouth to Headwaters	River/Stream
Ohio River influence to Sandy Creek	River/Stream
Lake Barkley Backwaters to Long Pond Branch	River/Stream
Mouth to Headwaters	River/Stream
Confluence with Currys Fork to Crystal Lake	River/Stream
Bayou de Chien to Cane Creek	River/Stream
Mouth to US Army Fort Knox A	River/Stream
US Fort Knox A to 1.8 River Miles Upstream of US-60 Owensboro Highway	River/Stream
1.8 River Miles Upstream of US-60 Owensboro Highway to Dry Branch	River/Stream
Mouth to McNeely Lake Dam	River/Stream
Butler Creek to Headwaters	River/Stream
Lake Cumberland Backwaters to Somerset STP	River/Stream
Mouth to Headwaters/Spring	River/Stream
Mouth to UT to Pleasant Run	River/Stream
Saltlick Creek to pond at headwaters	River/Stream
West Fork of Pond River to Coal Creek and Long Creek	River/Stream
1 Mile upstream of Harlan Municipal Water Works to Chumney Branch	River/Stream
Mouth to Headwaters	River/Stream
Mouth to Headwaters	River/Stream
KY/TN State Line to Whippoorwill Creek	River/Stream
Whippoorwill Creek to South Fork Red River	River/Stream
South Fork of Red River to Little Whippoorwill Creek	River/Stream
Sulphur Spring Creek to KY/TN State Line	River/Stream
Fox Branch to State Line	River/Stream
Rough River Lake Backwaters to Linders Creek	River/Stream
Mouth to headwaters	River/Stream
Mouth to Headwater	River/Stream
Mouth to Barlow STP Outfall	River/Stream
Mouth to Sink/Headwaters	River/Stream
Boiling Springs to Blue and Stony Forks	River/Stream
Hardins Creek to Boiling Springs	River/Stream
Stillhouse Branch to Steele Branch	River/Stream
Ohio River backwaters to Headwaters	River/Stream
Confluence with Currys Fork to UT (~0.2 river miles upstream Camp Creek)	River/Stream
Confluence with Currys Fork to UT (~0.2 river miles upstream Camp Creek)	River/Stream

Confluence with Currys Fork to UT (~0.2 river miles upstream Camp Creek)	River/Stream
Mouth to headwaters near pond	River/Stream
Mouth to headwaters near pond	River/Stream
Mouth to headwaters near pond	River/Stream
Mouth to Headwaters	River/Stream
Mouth to Headwaters	River/Stream
Mouth to Headwaters	River/Stream
Confluence with North Fork of Panther Creek to Shoemaker Branch	River/Stream
Mouth to Adairville POTW	River/Stream
Mouth to Headwaters (Pond)	River/Stream
Mouth to Headwaters (Pond)	River/Stream
Mouth to Headwaters (Pond)	River/Stream
English Rd. (CR-1060) to headwaters	River/Stream
Mouth to Neely Branch	River/Stream
KY/TN State Line to East Fork of Terrapin Creek	River/Stream
Mouth to UT	River/Stream
Mouth to Headwaters	River/Stream
Mouth to Campbellsville City Reservoir dam	River/Stream
backwaters of pond above Campbellsville City Reservoir to headwaters	River/Stream
Mouth to Pond	River/Stream
Mouth to UT to UT to West Fork Canoe Creek	River/Stream
Mouth to Dam	River/Stream
Tributary approx. 0.5 river miles downstream KY-813 to McFarland Creek	River/Stream
KY/TN State Line to Montgomery Creek	River/Stream
Mouth to Little White Oak Creek	River/Stream
Mouth to Heflin Creek	River/Stream
Mouth to Headwaters	River/Stream

BASIN	COUNTY	HUC12
Tennessee River	Marshall	060400060503
Lower Cumberland River	Crittenden	051302050805
Green River	Hart, Larue	051100011101
Green River	Allen, Monroe	051100020109,051100020203
Mississippi River	Fulton, Hickman	080102010404
Tennessee River	Marshall	060400051005
Green River	Edmonson	051100011206
Green River	Barren	051100020305
Upper Cumberland River	Pulaski	051301030103
Licking River	Bath	051001020302
Ohio River	Henry, Oldham	051401010501
Green River	Butler	051100011402
Ohio River	Daviess, Hancock	051402010605
Salt River	Bullitt	051401021005
Salt River	Bullitt	051401021005
Salt River	Bullitt	051401021005
Salt River	Bullitt	051401021005
Salt River	Bullitt	051401021005
Salt River	Bullitt	051401021005
Salt River	Bullitt	051401021005
Salt River	Bullitt	051401021005
Ohio River	Oldham	051401010502
Ohio River	Campbell	050902011205
Upper Cumberland River	Pulaski, Rockcastle	051301030103
Ohio River	Crittenden	051402030302
Green River	Taylor	051100010504
Ohio River	Crittenden	051402030302
Ohio River	Henderson	051402020405
Ohio River	Henderson	051402020405
Ohio River	Henderson	051402020403,051402020404
Ohio River	Henderson	051402020402,051402020404,(
Ohio River	Henderson	051402020403
Salt River	Bullitt, Jefferson	051401021002
Salt River	Jefferson	051401020804
Tennessee River	Marshall	060400060404
Tennessee River	Marshall	060400060404
Tennessee River	Calloway	060400060105
Lower Cumberland River	Crittenden	051302050805
Lower Cumberland River	Crittenden, Livingston	051302050805
Lower Cumberland River	Crittenden	051302050805
Lower Cumberland River	Crittenden	051302050805
Upper Cumberland River	Pulaski	051301030103
Upper Cumberland River	Harlan	051301010105
Ohio River	Crittenden	051402030403
Kentucky River	Letcher	051002010103
Lower Cumberland River	Livingston	051302050805
Lower Cumberland River	Livingston	051302050805
Kentucky River	Letcher	051002010103
Ohio River	Crittenden	051402030302
Ohio River	Crittenden	051402030301,051402030302
Ohio River	Crittenden	051402030301,051402030302
Ohio River	Crittenden	051402030302
Upper Cumberland River	Harlan	051301010107,051301010203

Green River	McLean	051100060405
Tennessee River	Marshall	060400060503
Tennessee River	Marshall	060400060501
Tennessee River	Marshall	060400060501
Tennessee River	Marshall	060400060503
Tennessee River	Calloway	060400060202
Ohio River	Oldham	051401010503
Ohio River	Oldham	051401010503
Ohio River	Oldham	051401010503
Ohio River	Oldham	051401010503
Ohio River	Oldham	051401010503
Ohio River	Union	051402030203
Lower Cumberland River	Crittenden	051302050805
Ohio River	Meade	051401040106
Green River	Warren	051100020607
Lower Cumberland River	Crittenden, Livingston	051302050805
Lower Cumberland River	Crittenden	051302050805
Lower Cumberland River	Crittenden, Livingston	051302050805
Kentucky River	Letcher	051002010104
Kentucky River	Letcher	051002010104
Lower Cumberland River	Crittenden	051302050805
Kentucky River	Letcher	051002010104
Ohio River	Henderson	051402020404
Ohio River	Henderson	051402020402
Ohio River	Henderson	051402020402
Lower Cumberland River	Todd	051302060703
Lower Cumberland River	Todd	051302060703
Lower Cumberland River	Todd	051302060703
Salt River	Bullitt, Jefferson	051401021003,051401021004
Salt River	Oldham, Shelby	051401020801,051401020802,(
Ohio River	Campbell	050902011207
Ohio River	Jefferson	051401010605
Ohio River	Jefferson	051401010605
Licking River	Bourbon	051001020103
Licking River	Bourbon	051001020103
Green River	Adair, Casey	051100010115,051100010116,(
Green River	McLean, Muhlenberg, Ohio	051100030505
Licking River	Montgomery	051001010703
Licking River	Montgomery	051001010703
Licking River	Clark	051001020101
Licking River	Clark	051001020101
Licking River	Clark	051001020101
Ohio River	Jefferson	051401010505
Ohio River	Henry, Oldham	051401010501
Ohio River	Union	051402020702,051402020703,(
Ohio River	Henderson, Union	051402020505,051402020702
Ohio River	Henderson, Union	051402020505,051402020702
Licking River	Montgomery	051001020302
Licking River	Montgomery	051001020302
Licking River	Montgomery	051001020302
Licking River	Montgomery	051001020302
Ohio River	Boyd	050901030102
Ohio River	Ballard	051402060602,051402060604
Tennessee River	McCracken	060400060504,060400060505

Licking River	Clark	051001020102
Licking River	Bath, Montgomery	051001020302
Green River	Green, Hart	051100010609
Tennessee River	Marshall	060400060503
Ohio River	Jefferson	051401010605
Green River	Taylor	051100010504
Lower Cumberland River	Trigg	051302050507
Little Sandy River	Greenup	050901040505
Lower Cumberland River	Logan	051302060204
Lower Cumberland River	Logan	051302060204
Ohio River	Bracken	050902011105,050902011106
Upper Cumberland River	Knox, Laurel, Whitley	051301010804
Upper Cumberland River	Harlan	051301010103
Green River	Hart	051100011101
Mississippi River	Ballard, Carlisle	080102010205
Mississippi River	Graves	080102010104,080102010105
Lower Cumberland River	Crittenden	051302050805
Ohio River	Jefferson	051401010906
Ohio River	Jefferson	051401010903
Upper Cumberland River	Laurel	051301020501
Green River	Butler	051100030105
Lower Cumberland River	Trigg	051302050604
Ohio River	Henderson	051402020402
Salt River	Oldham	051401020803
Mississippi River	Fulton, Hickman	080102010507
Ohio River	Meade	051401040105
Ohio River	Meade	051401040105
Ohio River	Meade	051401040105
Salt River	Bullitt, Jefferson	051401021002
Tradewater River	Crittenden	051402050306
Upper Cumberland River	Pulaski	051301030204
Lower Cumberland River	Logan	051302060205
Lower Cumberland River	Logan	051302060204
Green River	Muhlenberg	051100030402
Green River	Christian, Muhlenberg	051100060206
Upper Cumberland River	Harlan	051301010106
Upper Cumberland River	Laurel	051301020501
Licking River	Bourbon, Clark	051001020104
Lower Cumberland River	Logan	051302060702
Lower Cumberland River	Logan	051302060205
Lower Cumberland River	Logan	051302060205
Lower Cumberland River	Simpson	051302060102
Upper Cumberland River	McCreary	051301040507
Green River	Breckinridge, Grayson, Hardin	051100040106
Kentucky River	Letcher	051002010103
Ohio River	Henderson	051402020404
Mississippi River	Ballard	080101000101,080101000102
Lower Cumberland River	Logan	051302060203
Ohio River	Breckinridge	051401041302,051401041303,(
Ohio River	Breckinridge	051401041304
Lower Cumberland River	Trigg	051302050607
Ohio River	Bracken	050902011106
Salt River	Oldham	051401020803
Salt River	Oldham	051401020803

Salt River	Oldham	051401020803
Salt River	Oldham	051401020803
Salt River	Oldham	051401020803
Salt River	Oldham	051401020803
Salt River	Oldham	051401020803
Salt River	Oldham	051401020803
Ohio River	Oldham	051401010503
Green River	Daviess	051100050303
Lower Cumberland River	Logan	051302060202
Salt River	Jefferson, Shelby	051401020805
Salt River	Jefferson, Shelby	051401020805
Salt River	Jefferson, Shelby	051401020805
Tennessee River	Marshall	060400060501
Lower Cumberland River	Simpson	051302060102
Mississippi River	Graves	080102020103
Ohio River	Henderson	051402020402
Licking River	Bath	051001020302
Green River	Taylor	051100010504
Green River	Taylor	051100010504
Ohio River	Henderson	051402020403
Ohio River	Henderson	051402020403
Green River	Simpson, Warren	051100020603,051100020606
Green River	Christian, Hopkins	051100060103,051100060104
Lower Cumberland River	Christian	051302060604
Upper Cumberland River	Laurel	051301020501
Mississippi River	Carlisle	080102010203
Ohio River	Henderson	051402020405

POLLUTANT	DESIGNATED_USE	CYCLE_FIRST_LISTED
PATHOGENS	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
PATHOGENS	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
PATHOGENS	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2008
Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2006
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2004
Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2006
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2004
Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2005
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2008
Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2006
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2012
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
Fecal Coliform	Secondary Contact Recreation	2004
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2014
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2012
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2012
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020

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[illegible]

Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2014
Dissolved Oxygen	Warm Water Aquatic Habitat	2014
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2014
Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2014
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2014
Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
Dissolved Oxygen	Warm Water Aquatic Habitat	2014
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2014
Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2008
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2012
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014

AU_ID	ID_2016	AU_NAME
KY-135	KY485958_01	Angle Creek 0.0 to 0.8
KY-3268		Axel Creek 2.7 to 4.7
KY-153	KY486197-29.85_01	Bacon Creek UT 0.0 to 3.25
KY-2909		Barren River 105.2 to 118.7
KY-2858		Bayou de Chien 8.8 to 13.3
KY-193	KY486553_02	Bear Creek 3.4 to 6.7
KY-194	KY486554_01	Bear Creek 8.05 to 12.75
KY-201	KY486609_01	Beaver Creek 8.55 to 15.8
KY-212	KY486678_01	Bee Lick Creek 0.0 to 5.7
KY-3150		Bennett Branch 0.0 to 2.7
KY-232	KY486913_01	Berry Creek 0.0 to 3.1
KY-2732		Big Reedy Creek 0.0 to 7.3
KY-282	KY487412_01	Blackford Creek 0.0 to 3.8
KY-324	KY487968_01	Brooks Run 0.0 to 2.7
KY-324	KY487968_01	Brooks Run 0.0 to 2.7
KY-325	KY487968_02	Brooks Run 2.7 to 4.35
KY-325	KY487968_02	Brooks Run 2.7 to 4.35
KY-326	KY487968_03	Brooks Run 4.35 to 6.4
KY-326	KY487968_03	Brooks Run 4.35 to 6.4
KY-23	KY487968-4.3_01	Brooks Run UT 0.0 to 2.0
KY-23	KY487968-4.3_01	Brooks Run UT 0.0 to 2.0
KY-25	KY488068_01	Brush Creek 0.0 to 1.8
KY-328	KY488069_01	Brush Creek 0.0 to 2.4
KY-2116	KY510974_02	Brushy Creek 8.0 to 16.5
KY-2117	KY510977_01	Brushy Fork 0.0 to 4.5
KY-3266		Buck Horn Creek 0.0 to 5.75
KY-2139	KY511100_01	Butler Creek 0.0 to 4.1
KY-430	KY488897_01	Canoe Creek 0.0 to 3.95
KY-430	KY488897_01	Canoe Creek 0.0 to 3.95
KY-432	KY488897_03	Canoe Creek 14.6 to 23.95
KY-431	KY488897_02	Canoe Creek 3.95 to 14.5
KY-433	KY488897-19.8_01	Canoe Creek UT 0.0 to 1.0
KY-456	KY489183_01	Cedar Creek 4.3 to 12.1
KY-473	KY489392_01	Chenoweth Run (Upper) 0.0 to 4.05
KY-475	KY489424_02	Chestnut Creek 3.2 to 5.05
KY-476	KY489424-1.05_01	Chestnut Creek UT 0.0 to 2.9
KY-487	KY489552_07	Clarks River 52.1 to 55.5
KY-512	KY489591_03	Claylick Creek 10.8 to 14.0
KY-510	KY489591_01	Claylick Creek 2.05 to 4.85
KY-511	KY489591_02	Claylick Creek 4.85 to 10.8
KY-3283		Clement Creek 0.0 to 4.75
KY-2171	KY511409_01	Clifty Creek 0.0 to 2.7
KY-2172	KY511423_01	Clover Fork Cumberland River 0.0 to 6.7
KY-533	KY489769_01	Coefield Creek 0.0 to 8.9
KY-3136		Company Branch 0.0 to 1.75
KY-3284		Cox Spring Branch 0.0 to 2.75
KY-3285		Cox Spring Branch UT 0.0 to 1.55
KY-3137		Crafts Colly Creek 0.0 to 5.75
KY-2201	KY511649_01	Crooked Creek 0.0 to 12.1
KY-2757		Crooked Creek 12.1 to 18.1
KY-2756		Crooked Creek 18.1 to 26.4
KY-2203	KY511649-8.3_01	Crooked Creek UT 0.0 to 1.95
KY-2641	KY517018_11	Cumberland River 677 to 688.9

KY-588	KY490526_01	Cypress Creek 0.0 to 6.0
KY-617	KY490528_01	Cypress Creek 0.0 to 6.25
KY-3279		Cypress Creek 11.5 to 12.8
KY-3281		Cypress Creek 13.7 to 14.85
KY-3275		Cypress Creek UT 0.1 to 1.3
KY-3271		Damon Creek 2.1 to 4.65
KY-624	KY490588_01	Darby Creek 0.0 to 1.3
KY-625	KY490588_02	Darby Creek 1.3 to 3.4
KY-626	KY490588_03	Darby Creek 3.4 to 5.9
KY-627	KY490589_01	Darby Fork 0.0 to 1.55
KY-628	KY490589_02	Darby Fork 1.55 to 2.85
KY-635	KY490816_01	Dennis O'Nan Ditch 0.2 to 5.2
KY-3270		Doan Spring Creek UT 0.0 to 2.3
KY-2877		Doe Run 5.2 to 8.3
KY-651	KY491096_01	Drakes Creek 0.0 to 23.4
KY-3286		Dry Creek 0.0 to 2.25
KY-3287		Dry Creek 2.25 to 6.5
KY-3288		Dry Creek UT 0.0 to 2.0
KY-3139		Dry Fork 0.0 to 2.1
KY-3140		Dry Fork 2.1 to 4.55
KY-3289		Dry Fork Creek 0.0 to 1.9
KY-3141		Dry Fork UT 0.0 to 1.5
KY-684	KY491444_01	East Fork Canoe Creek 0.0 to 7.85
KY-711	KY491607_01	Elam Ditch 0.0 to 5.3
KY-712	KY491607-2.8_01	Elam Ditch UT 0.0 to 0.82
KY-720	KY491660_02	Elk Fork 22.4 to 30.3
KY-721	KY491660_03	Elk Fork 30.3 to 32.45
KY-723	KY491660-26.4_01	Elk Fork UT 0.0 to 4.8
KY-775	KY492278_02	Floyds Fork 11.7 to 24.2
KY-603	KY492278_06	Floyds Fork 45.7 to 61.9
KY-780	KY492390_01	Fourmile Creek 0.2 to 8.3
KY-822	KY493014_01	Goose Creek 0.05 to 3.3
KY-823	KY493014_02	Goose Creek 3.3 to 12.85
KY-835	KY493267_01	Green Creek 0.0 to 8.15
KY-836	KY493267_02	Green Creek 8.45 to 13.25
KY-850	KY493284_14	Green River 327.3 to 342.9
KY-2970		Green River 71.0 to 85.1
KY-3325		Greenbrier Creek 0.0 to 0.95
KY-3326		Greenbrier Creek 3.45 to 5.5
KY-3292		Hancock Creek 0.0 to 4.2
KY-881	KY493672_01	Hancock Creek 4.2 to 7.6
KY-3293		Hancock Creek UT of UT 0.0 to 1.15
KY-905	KY493826_01	Harrods Creek 0.05 to 3.2
KY-908	KY493826_04	Harrods Creek 27.3 to 33.3
KY-924	KY494210_01	Highland Creek 0.0 to 7.65
KY-925	KY494210_02	Highland Creek 7.65 to 21.15
KY-925	KY494210_02	Highland Creek 7.65 to 21.15
KY-3151		Hinkston Creek UT 0.0 to 1.7
KY-3057		Hinkston Creek UT 0.0 to 1.9
KY-3148		Hinkston Creek UT 0.0 to 2.3
KY-3149		Hinkston Creek UT 0.0 to 2.4
KY-944	KY494492_02	Hood Creek 0.8 to 5.3
KY-959	KY494758_02	Humphrey Creek 3.4 to 11.25
KY-985	KY495045_01	Island Creek 0.0 to 5.6

KY-3308		Johnson Creek 0.90 to 7.3
KY-3152		Lane Branch 0.0 to 3.1
KY-1093	KY496604_01	Little Barren River 0.0 to 9.8
KY-1110	KY496700_01	Little Cypress Creek 0.0 to 3.4
KY-1126	KY496745_01	Little Goose Creek 0.0 to 9.5
KY-3263		Little Pitman Creek 11.4 to 14.45
KY-1146	KY496838_02	Little River 20.7 to 30.1
KY-1151	KY496857_01	Little Sandy River 0.0 to 0.15
KY-1165	KY496894_01	Little Whippoorwill Creek 0.0 to 4.1
KY-1166	KY496894_02	Little Whippoorwill Creek 4.1 to 7.0
KY-1175	KY496941_01	Locust Creek 0.0 to 4.25
KY-2396	KY513739_01	Lynn Camp Creek 0.8 to 4.3
KY-1237	KY497628_03	Martins Fork Cumberland River 17.7 to 19.5
KY-3259		Martis Branch 0.0 to 4.15
KY-1245	KY497717_02	Mayfield Creek 10.65 to 16.0
KY-1248	KY497717_08	Mayfield Creek 37.7 to 40.4
KY-3291		McHaley Creek 1.7 to 2.2
KY-1317	KY498268_01	Mill Creek 0.0 to 9.8
KY-1319	KY498275_01	Mill Creek Cutoff 0.0 to 2.3
KY-2422	KY514033_01	Mitchell Creek 0.0 to 3.85
KY-1345	KY499036_01	Muddy Creek 0.1 to 5.9
KY-1353	KY499043_01	Muddy Fork Little River 2.4 to 6.6
KY-1389	KY499544_01	North Fork Canoe Creek 0.0 to 8.05
KY-1391	KY499547_01	North Fork Currys Fork 0.0 to 6.0
KY-1417	KY499767_01	Obion Creek 1.35 to 16.5
KY-2925		Otter Creek 0.0 to 8.5
KY-2926		Otter Creek 8.5 to 9.7
KY-2883		Otter Creek 9.7 to 10.9
KY-1464	KY500387_01	Pennsylvania Run 0.0 to 3.3
KY-1480	KY500729_02	Piney Creek 17.25 to 25.45
KY-2462	KY514627_01	Pitman Creek 5.4 to 6.0
KY-1481	KY500832_01	Pleasant Grove Creek 0.0 to 2.3
KY-1482	KY500905_01	Pleasant Run 0.0 to 2.15
KY-1510	KY501042_07	Pond Creek 17.9 to 21.2
KY-1524	KY501053_04	Pond River 57.7 to 61.2
KY-3012		Poor Fork Cumberland River 1.2 to 14
KY-2476	KY514748_01	Powder Mill Creek 0.0 to 4.95
KY-1540	KY501310_01	Pretty Run 0.0 to 8.1
KY-1559	KY501672_01	Red River 50.9 to 54.5
KY-1560	KY501672_02	Red River 54.5 to 56.90
KY-1561	KY501672_03	Red River 56.9 to 65.75
KY-1563	KY501672_05	Red River 74.3 to 81.3
KY-2503	KY514993_03	Roaring Paunch Creek 15.6 to 15.75
KY-2807		Rough River 125.0 to 137.8
KY-3143		Sandlick Creek 0.0 to 4.75
KY-1690	KY503159_01	Sellers Ditch 0.0 to 1.4
KY-1698	KY503285_01	Shawnee Creek 0.0 to 3.4
KY-1716	KY503559_01	Sinking Creek 0.0 to 3.3
KY-2544	KY515434_03	Sinking Creek 15.5 to 39.9
KY-2543	KY515434_02	Sinking Creek 8.85 to 15.5
KY-1718	KY503569_01	Sinking Fork 2.1 to 5.65
KY-1743	KY503833_01	Snag Creek 1.1 to 6.55
KY-3327		South Fork Currys Fork 0.0 to 5.3
KY-3327		South Fork Currys Fork 0.0 to 5.3

KY-3327		South Fork Currys Fork 0.0 to 5.3
KY-3328		South Fork Currys Fork UT 0.0 to 0.8
KY-3328		South Fork Currys Fork UT 0.0 to 0.8
KY-3328		South Fork Currys Fork UT 0.0 to 0.8
KY-1759	KY503919-3.9_01	South Fork Currys Fork UT 0.0 to 1.8
KY-1759	KY503919-3.9_01	South Fork Currys Fork UT 0.0 to 1.8
KY-1760	KY503920_01	South Fork Darby Creek 0.0 to 3.95
KY-1778	KY503939_01	South Fork Panther Creek 0.0 to 2.4
KY-1783	KY503943_01	South Fork Red River 0.0 to 5.3
KY-1786	KY503961_01	South Long Run 0.0 to 3.6
KY-1786	KY503961_01	South Long Run 0.0 to 3.6
KY-1786	KY503961_01	South Long Run 0.0 to 3.6
KY-3272		Stice Creek 1.3 to 5.1
KY-1868	KY504760_01	Sulphur Spring Creek 0.0 to 6.6
KY-1882	KY505081_01	Terrapin Creek 2.8 to 7.0
KY-1390	KY499544-0.7_01	Tiger Ditch 0.0 to 0.8
KY-17	KY1699857_01	Town Branch 0.0 to 3.35
KY-3264		Trace Fork 0.0 to 1.25
KY-3265		Trace Fork 2.3 to 6.95
KY-1974	KY506424_01	West Fork Canoe Creek 0.0 to 7.75
KY-1975	KY506424-3.4_01	West Fork Canoe Creek UT 0.0 to 2.2
KY-1986	KY506431_01	West Fork Drakes Creek 0.0 to 23.25
KY-2000	KY506444_01	West Fork Pond River 1.8 to 6.3
KY-4	KY1269347_01	West Fork Red River 14.65 to 26.8
KY-2615	KY516320_01	White Oak Creek 0.0 to 1.0
KY-2031	KY506898_01	Wilson Creek 0.0 to 2.15
KY-2033	KY506900_01	Wilson Creek 0.0 to 6.9

AU_DESCRIPTION	WATERBODY_TYPE
Mouth to CR 1374 (Calvert City Road)	River/Stream
Powerline crossing to headwaters	River/Stream
Mouth to Pond	River/Stream
Lake Backwaters to La Fayette Water District	River/Stream
Rush Creek to Midway Between KY-239 and US-51 Bridges	River/Stream
Backwaters to Headwaters	River/Stream
Caney Hollow to Beaverdam Creek	River/Stream
South Fork of Beaver Creek to Railroad trestle	River/Stream
Mouth to Warren Branch	River/Stream
Mouth to headwaters	River/Stream
Mouth to Headwaters	River/Stream
Mouth to UT at approximately RM 7.3	River/Stream
Backwater of the Ohio River to Little Blackford Creek	River/Stream
Mouth to Joy Lane	River/Stream
Mouth to Joy Lane	River/Stream
Joy Lane to UT	River/Stream
Joy Lane to UT	River/Stream
Confluence with UT to 0.1 mile above Coral Ridge Road	River/Stream
Confluence with UT to 0.1 mile above Coral Ridge Road	River/Stream
Mouth to Headwaters	River/Stream
Mouth to Headwaters	River/Stream
Mouth to UT of Brush Creek	River/Stream
Mouth to UT near SR1121	River/Stream
Bee Lick Creek to Headwaters	River/Stream
Mouth to Headwaters	River/Stream
mouth to headwaters	River/Stream
Mouth to Contiguous Buffer	River/Stream
Backwater of Ohio River to Wilson Creek	River/Stream
Backwater of Ohio River to Wilson Creek	River/Stream
Sellers Ditch to Headwaters	River/Stream
Wilson Creek to Sellers Ditch	River/Stream
UT of UT of Canoe Creek to UT of UT of Canoe Creek	River/Stream
Pennsylvania Run to Cedar Creek WWTP Outfall	River/Stream
Mouth to Headwaters	River/Stream
Impoundment to Headwaters	River/Stream
Mouth to Pond at Headwaters	River/Stream
Rockhouse Creek to land use change	River/Stream
Clement Creek to Preacher Creek	River/Stream
Axel Creek to Pickett Springs Creek	River/Stream
Puckett Spring Creek to Clement Creek	River/Stream
Mouth to headwaters	River/Stream
Mouth to Rocky Branch	River/Stream
Mouth to Yocum Creek	River/Stream
Mouth to Kit Love Branch	River/Stream
Mouth to headwaters	River/Stream
Sink to headwaters	River/Stream
Mouth to headwaters	River/Stream
Mouth to headwaters	River/Stream
Mouth to Butler Creek	River/Stream
Butler Creek to Rush Creek	River/Stream
Rush Creek to City Lake Dam	River/Stream
Mouth to Contiguous riparian zone	River/Stream
Between confluences of Laurel Branch and Mile Branch (downstream of Wallin River/Stream	

Mouth to Pond Drain	River/Stream
Little Cypress Creek to Camp Creek	River/Stream
I-24 to Little John Creek confluence	River/Stream
above Stice Creek confluence to UT above English Rd. bridge	River/Stream
Above confluence of UT to UT to the headwaters	River/Stream
pond backwaters to headwaters	River/Stream
Mouth to South Fork Darby Creek	River/Stream
South Fork Darby Creek to UT	River/Stream
UT to Headwaters	River/Stream
Mouth to Near Mouth of UT/Land Use Change	River/Stream
Near UT/Land Use Change to Headwaters	River/Stream
Ohio River backwater to Cypress Creek	River/Stream
Sink to headwaters	River/Stream
KY-1638 Old Mill Road to Headwaters	River/Stream
Mouth to Middle and West Fork of Drakes Creek	River/Stream
Sink to UT with Crodson Creek	River/Stream
UT with Crodson Creek to headwaters	River/Stream
Mouth to pond near headwaters	River/Stream
Mouth to mine portal	River/Stream
Mine portal to headwaters	River/Stream
Mouth to land use change (where forested corridor begins)	River/Stream
Mouth to headwaters	River/Stream
Mouth to Headwaters	River/Stream
Mouth to UT	River/Stream
Mouth to UT to UT to Elam Ditch	River/Stream
Dry Branch to confluence of UT (in Elkton)	River/Stream
Confluence of UT to UT	River/Stream
Elk Fork to Headwaters	River/Stream
Wells Run to Chenoweth Run	River/Stream
UT at County Line to Headwaters	River/Stream
Ohio River Backwaters to UT (Pump station)	River/Stream
Ohio River Backwaters to I-71	River/Stream
I-71 to Headwaters	River/Stream
Mouth to below Pond	River/Stream
Above Pond to UT	River/Stream
Green River Lake backwaters to South Fork Green River	River/Stream
Rough River to Central City Municipal Water & Sewer	River/Stream
Mouth to Greenbrier Creek Reservoir	River/Stream
Greenbrier Creek Reservoir to Headwaters	River/Stream
Mouth to UT below railroad track	River/Stream
Upstream of UT to Headwaters	River/Stream
Mouth to headwaters	River/Stream
Ohio River Backwaters to Wolfpen Branch	River/Stream
Berry Creek to Headwaters	River/Stream
Mouth to Pond Creek	River/Stream
Pond Creek to Beaverdam Creek	River/Stream
Pond Creek to Beaverdam Creek	River/Stream
Mouth to headwaters	River/Stream
Mouth to Headwaters	River/Stream
Mouth to headwaters	River/Stream
Mouth to headwaters	River/Stream
US 60 to Roadhouse Fork	River/Stream
Clanton Creek to Humphrey Slough	River/Stream
Mouth to Champion Creek	River/Stream

UT to pond in headwaters	River/Stream
Mouth to headwaters	River/Stream
Mouth to Trammel Creek	River/Stream
Mouth to Angle Creek	River/Stream
Goose Creek to Headwaters	River/Stream
Trace Fork to headwaters	River/Stream
Sinking Fork to Potts Creek	River/Stream
Ohio River to Outfall	River/Stream
Mouth to Pleasant Run	River/Stream
Pleasant Run to Headwaters	River/Stream
Mouth to Goose Creek	River/Stream
Laurel River Reservoir Backwaters to East Fork	River/Stream
Reservoir Backwaters to Rough Branch	River/Stream
Mouth to Headwaters	River/Stream
West Fork of Mayfield Creek to Wilson Creek	River/Stream
Cooley Creek to Key Creek	River/Stream
Approximately 0.05 river miles downstream CR1205 to headwaters	River/Stream
Mouth to Below Cutoff	River/Stream
Mouth to Pump Station	River/Stream
Mouth to Headwaters	River/Stream
Ohio River influence to Sandy Creek	River/Stream
Lake Barkley Backwaters to Long Pond Branch	River/Stream
Mouth to Headwaters	River/Stream
Confluence with Currys Fork to Crystal Lake	River/Stream
Bayou de Chien to Cane Creek	River/Stream
Mouth to US Army Fort Knox A	River/Stream
US Fort Knox A to 1.8 River Miles Upstream of US-60 Owensboro Highway	River/Stream
1.8 River Miles Upstream of US-60 Owensboro Highway to Dry Branch	River/Stream
Mouth to McNeely Lake Dam	River/Stream
Butler Creek to Headwaters	River/Stream
Lake Cumberland Backwaters to Somerset STP	River/Stream
Mouth to Headwaters/Spring	River/Stream
Mouth to UT to Pleasant Run	River/Stream
Saltlick Creek to pond at headwaters	River/Stream
West Fork of Pond River to Coal Creek and Long Creek	River/Stream
1 Mile upstream of Harlan Municipal Water Works to Chumney Branch	River/Stream
Mouth to Headwaters	River/Stream
Mouth to Headwaters	River/Stream
KY/TN State Line to Whippoorwill Creek	River/Stream
Whippoorwill Creek to South Fork Red River	River/Stream
South Fork of Red River to Little Whippoorwill Creek	River/Stream
Sulphur Spring Creek to KY/TN State Line	River/Stream
Fox Branch to State Line	River/Stream
Rough River Lake Backwaters to Linders Creek	River/Stream
Mouth to headwaters	River/Stream
Mouth to Headwater	River/Stream
Mouth to Barlow STP Outfall	River/Stream
Mouth to Sink/Headwaters	River/Stream
Boiling Springs to Blue and Stony Forks	River/Stream
Hardins Creek to Boiling Springs	River/Stream
Stillhouse Branch to Steele Branch	River/Stream
Ohio River backwaters to Headwaters	River/Stream
Confluence with Currys Fork to UT (~0.2 river miles upstream Camp Creek)	River/Stream
Confluence with Currys Fork to UT (~0.2 river miles upstream Camp Creek)	River/Stream

Confluence with Currys Fork to UT (~0.2 river miles upstream Camp Creek)	River/Stream
Mouth to headwaters near pond	River/Stream
Mouth to headwaters near pond	River/Stream
Mouth to headwaters near pond	River/Stream
Mouth to Headwaters	River/Stream
Mouth to Headwaters	River/Stream
Mouth to Headwaters	River/Stream
Confluence with North Fork of Panther Creek to Shoemaker Branch	River/Stream
Mouth to Adairville POTW	River/Stream
Mouth to Headwaters (Pond)	River/Stream
Mouth to Headwaters (Pond)	River/Stream
Mouth to Headwaters (Pond)	River/Stream
English Rd. (CR-1060) to headwaters	River/Stream
Mouth to Neely Branch	River/Stream
KY/TN State Line to East Fork of Terrapin Creek	River/Stream
Mouth to UT	River/Stream
Mouth to Headwaters	River/Stream
Mouth to Campbellsville City Reservoir dam	River/Stream
backwaters of pond above Campbellsville City Reservoir to headwaters	River/Stream
Mouth to Pond	River/Stream
Mouth to UT to UT to West Fork Canoe Creek	River/Stream
Mouth to Dam	River/Stream
Tributary approx. 0.5 river miles downstream KY-813 to McFarland Creek	River/Stream
KY/TN State Line to Montgomery Creek	River/Stream
Mouth to Little White Oak Creek	River/Stream
Mouth to Heflin Creek	River/Stream
Mouth to Headwaters	River/Stream

BASIN	COUNTY	HUC12
Tennessee River	Marshall	060400060503
Lower Cumberland River	Crittenden	051302050805
Green River	Hart, Larue	051100011101
Green River	Allen, Monroe	051100020109,051100020203
Mississippi River	Fulton, Hickman	080102010404
Tennessee River	Marshall	060400051005
Green River	Edmonson	051100011206
Green River	Barren	051100020305
Upper Cumberland River	Pulaski	051301030103
Licking River	Bath	051001020302
Ohio River	Henry, Oldham	051401010501
Green River	Butler	051100011402
Ohio River	Daviess, Hancock	051402010605
Salt River	Bullitt	051401021005
Salt River	Bullitt	051401021005
Salt River	Bullitt	051401021005
Salt River	Bullitt	051401021005
Salt River	Bullitt	051401021005
Salt River	Bullitt	051401021005
Salt River	Bullitt	051401021005
Salt River	Bullitt	051401021005
Ohio River	Oldham	051401010502
Ohio River	Campbell	050902011205
Upper Cumberland River	Pulaski, Rockcastle	051301030103
Ohio River	Crittenden	051402030302
Green River	Taylor	051100010504
Ohio River	Crittenden	051402030302
Ohio River	Henderson	051402020405
Ohio River	Henderson	051402020405
Ohio River	Henderson	051402020403,051402020404
Ohio River	Henderson	051402020402,051402020404,(
Ohio River	Henderson	051402020403
Salt River	Bullitt, Jefferson	051401021002
Salt River	Jefferson	051401020804
Tennessee River	Marshall	060400060404
Tennessee River	Marshall	060400060404
Tennessee River	Calloway	060400060105
Lower Cumberland River	Crittenden	051302050805
Lower Cumberland River	Crittenden, Livingston	051302050805
Lower Cumberland River	Crittenden	051302050805
Lower Cumberland River	Crittenden	051302050805
Upper Cumberland River	Pulaski	051301030103
Upper Cumberland River	Harlan	051301010105
Ohio River	Crittenden	051402030403
Kentucky River	Letcher	051002010103
Lower Cumberland River	Livingston	051302050805
Lower Cumberland River	Livingston	051302050805
Kentucky River	Letcher	051002010103
Ohio River	Crittenden	051402030302
Ohio River	Crittenden	051402030301,051402030302
Ohio River	Crittenden	051402030301,051402030302
Ohio River	Crittenden	051402030302
Upper Cumberland River	Harlan	051301010107,051301010203

Green River	McLean	051100060405
Tennessee River	Marshall	060400060503
Tennessee River	Marshall	060400060501
Tennessee River	Marshall	060400060501
Tennessee River	Marshall	060400060503
Tennessee River	Calloway	060400060202
Ohio River	Oldham	051401010503
Ohio River	Oldham	051401010503
Ohio River	Oldham	051401010503
Ohio River	Oldham	051401010503
Ohio River	Oldham	051401010503
Ohio River	Union	051402030203
Lower Cumberland River	Crittenden	051302050805
Ohio River	Meade	051401040106
Green River	Warren	051100020607
Lower Cumberland River	Crittenden, Livingston	051302050805
Lower Cumberland River	Crittenden	051302050805
Lower Cumberland River	Crittenden, Livingston	051302050805
Kentucky River	Letcher	051002010104
Kentucky River	Letcher	051002010104
Lower Cumberland River	Crittenden	051302050805
Kentucky River	Letcher	051002010104
Ohio River	Henderson	051402020404
Ohio River	Henderson	051402020402
Ohio River	Henderson	051402020402
Lower Cumberland River	Todd	051302060703
Lower Cumberland River	Todd	051302060703
Lower Cumberland River	Todd	051302060703
Salt River	Bullitt, Jefferson	051401021003,051401021004
Salt River	Oldham, Shelby	051401020801,051401020802,(
Ohio River	Campbell	050902011207
Ohio River	Jefferson	051401010605
Ohio River	Jefferson	051401010605
Licking River	Bourbon	051001020103
Licking River	Bourbon	051001020103
Green River	Adair, Casey	051100010115,051100010116,(
Green River	McLean, Muhlenberg, Ohio	051100030505
Licking River	Montgomery	051001010703
Licking River	Montgomery	051001010703
Licking River	Clark	051001020101
Licking River	Clark	051001020101
Licking River	Clark	051001020101
Ohio River	Jefferson	051401010505
Ohio River	Henry, Oldham	051401010501
Ohio River	Union	051402020702,051402020703,(
Ohio River	Henderson, Union	051402020505,051402020702
Ohio River	Henderson, Union	051402020505,051402020702
Licking River	Montgomery	051001020302
Licking River	Montgomery	051001020302
Licking River	Montgomery	051001020302
Licking River	Montgomery	051001020302
Ohio River	Boyd	050901030102
Ohio River	Ballard	051402060602,051402060604
Tennessee River	McCracken	060400060504,060400060505

Licking River	Clark	051001020102
Licking River	Bath, Montgomery	051001020302
Green River	Green, Hart	051100010609
Tennessee River	Marshall	060400060503
Ohio River	Jefferson	051401010605
Green River	Taylor	051100010504
Lower Cumberland River	Trigg	051302050507
Little Sandy River	Greenup	050901040505
Lower Cumberland River	Logan	051302060204
Lower Cumberland River	Logan	051302060204
Ohio River	Bracken	050902011105,050902011106
Upper Cumberland River	Knox, Laurel, Whitley	051301010804
Upper Cumberland River	Harlan	051301010103
Green River	Hart	051100011101
Mississippi River	Ballard, Carlisle	080102010205
Mississippi River	Graves	080102010104,080102010105
Lower Cumberland River	Crittenden	051302050805
Ohio River	Jefferson	051401010906
Ohio River	Jefferson	051401010903
Upper Cumberland River	Laurel	051301020501
Green River	Butler	051100030105
Lower Cumberland River	Trigg	051302050604
Ohio River	Henderson	051402020402
Salt River	Oldham	051401020803
Mississippi River	Fulton, Hickman	080102010507
Ohio River	Meade	051401040105
Ohio River	Meade	051401040105
Ohio River	Meade	051401040105
Salt River	Bullitt, Jefferson	051401021002
Tradewater River	Crittenden	051402050306
Upper Cumberland River	Pulaski	051301030204
Lower Cumberland River	Logan	051302060205
Lower Cumberland River	Logan	051302060204
Green River	Muhlenberg	051100030402
Green River	Christian, Muhlenberg	051100060206
Upper Cumberland River	Harlan	051301010106
Upper Cumberland River	Laurel	051301020501
Licking River	Bourbon, Clark	051001020104
Lower Cumberland River	Logan	051302060702
Lower Cumberland River	Logan	051302060205
Lower Cumberland River	Logan	051302060205
Lower Cumberland River	Simpson	051302060102
Upper Cumberland River	McCreary	051301040507
Green River	Breckinridge, Grayson, Hardin	051100040106
Kentucky River	Letcher	051002010103
Ohio River	Henderson	051402020404
Mississippi River	Ballard	080101000101,080101000102
Lower Cumberland River	Logan	051302060203
Ohio River	Breckinridge	051401041302,051401041303,(
Ohio River	Breckinridge	051401041304
Lower Cumberland River	Trigg	051302050607
Ohio River	Bracken	050902011106
Salt River	Oldham	051401020803
Salt River	Oldham	051401020803

Salt River	Oldham	051401020803
Salt River	Oldham	051401020803
Salt River	Oldham	051401020803
Salt River	Oldham	051401020803
Salt River	Oldham	051401020803
Salt River	Oldham	051401020803
Ohio River	Oldham	051401010503
Green River	Daviess	051100050303
Lower Cumberland River	Logan	051302060202
Salt River	Jefferson, Shelby	051401020805
Salt River	Jefferson, Shelby	051401020805
Salt River	Jefferson, Shelby	051401020805
Tennessee River	Marshall	060400060501
Lower Cumberland River	Simpson	051302060102
Mississippi River	Graves	080102020103
Ohio River	Henderson	051402020402
Licking River	Bath	051001020302
Green River	Taylor	051100010504
Green River	Taylor	051100010504
Ohio River	Henderson	051402020403
Ohio River	Henderson	051402020403
Green River	Simpson, Warren	051100020603,051100020606
Green River	Christian, Hopkins	051100060103,051100060104
Lower Cumberland River	Christian	051302060604
Upper Cumberland River	Laurel	051301020501
Mississippi River	Carlisle	080102010203
Ohio River	Henderson	051402020405

POLLUTANT	DESIGNATED_USE	CYCLE_FIRST_LISTED
PATHOGENS	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
PATHOGENS	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
PATHOGENS	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2008
Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2006
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2004
Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2006
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2004
Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2005
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2008
Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2006
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2012
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
Fecal Coliform	Secondary Contact Recreation	2004
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2014
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2012
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2012
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020

[illegible]

[illegible]

Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2014
Dissolved Oxygen	Warm Water Aquatic Habitat	2014
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2014
Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2014
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2014
Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
Dissolved Oxygen	Warm Water Aquatic Habitat	2014
Nutrient/Eutrophication Biological Indicators	Warm Water Aquatic Habitat	2014
Organic Enrichment (Sewage) Biological Indicators	Warm Water Aquatic Habitat	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2008
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2012
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2016
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2020
ESCHERICHIA COLI (E. COLI)	Primary Contact Recreation	2014

EPA TOTAL MAXIMUM DAILY LOAD REVIEW DOCUMENT

KENTUCKY STATEWIDE BACTERIA TMDL: LICKING RIVER AND SALT RIVER BASINS

TMDL: Addendum to Kentucky Statewide Total Maximum Daily Load (TMDL) for Bacteria Impaired Waters: Licking River and Salt River Basins Appendices

ATTAINS TMDL ID: KYACT_6

LOCATION: Licking River Basin Counties (Bath, Boone, Bourbon, Bracken, Breathitt, Campbell, Carter, Clark, Elliott, Fayette, Fleming, Floyd, Grant, Harrison, Johnson, Knott, Lewis, Kenton, Magoffin, Mason, Menifee, Montgomery, Morgan, Nicholas, Pendleton, Powell, Robertson, Rowan, Scott, Wolfe), and Salt River Basin Counties (Anderson, Boyle, Bullitt, Casey, Green, Hardin, Henry, Jefferson, Larue, Marion, Mercer, Nelson, Oldham, Shelby, Spencer, Taylor, Washington)

STATUS: Final

IMPAIRMENT/POLLUTANT: 110 TMDLs are being approved for the 98 waterbodies in the Licking River and Salt River basins identified in the following pages. The TMDLs addressed in this document identify *Escherichia coli* (*E. coli*) and/or fecal coliform loads as surrogates to address the bacteria impairments in the Licking River and Salt River basins, and the 110 pollutant-waterbody combinations are being addressed for not meeting criteria for bacteria and not supporting the designated uses of primary contact recreation (PCR) and/or secondary contact recreation (SCR).

BACKGROUND: The Kentucky Division of Water (KDOW) submitted the final *Addendum to Kentucky Statewide Total Maximum Daily Load (TMDL) for Bacteria Impaired Waters: Licking River and Salt River Basin Appendices* (the “Addendum,” “Submission,” or “Report”) with a submittal letter requesting review and approval to the EPA Region 4 on September 14, 2021. The 110 TMDLs were developed according to the methodology described in the *Kentucky Statewide Total Maximum Daily Load for Bacteria Impaired Waters* (the “Core Document”), which was approved by the EPA on February 22, 2019. The KDOW provided a preliminary draft Report to the EPA staff on July 2, 2021; the EPA staff provided comments to the KDOW staff on July 15, 2021, which were addressed in the Report that was placed on public notice on August 2, 2021.

The Submission included:

- Submittal Letter
- TMDL Summary Sheet
- Copies of published advertisements and the public notice for the proposed draft Document
- Report: *Addendum to Kentucky Statewide Total Maximum Daily Load (TMDL) for Bacteria Impaired Waters: Licking River and Salt River Basin Appendices*

This document explains how the Submission meets the statutory and regulatory requirements of TMDLs in accordance with Section 303(d) of the Clean Water Act (CWA) and the EPA’s implementing regulations in 40 Code of Federal Regulations (CFR) Part 130.

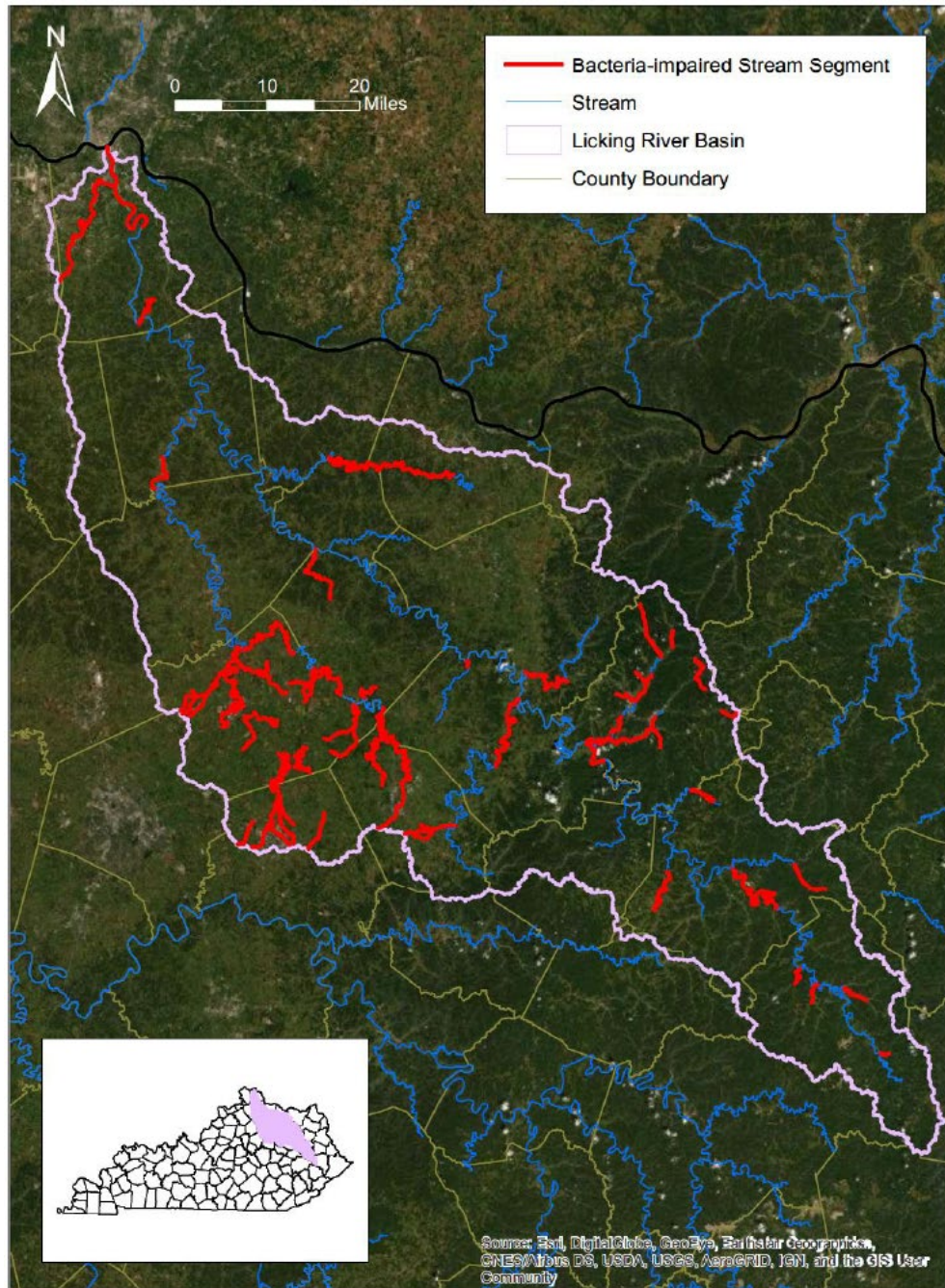
REVIEWER: Margaret Stebbins, KY Listing and TMDL Coordinator, stebbins.margaret@epa.gov

EPA TOTAL MAXIMUM DAILY LOAD REVIEW DOCUMENT KENTUCKY STATEWIDE BACTERIA TMDL: LICKING RIVER AND SALT RIVER BASINS

Waters Addressed in this TMDL Approval Action:

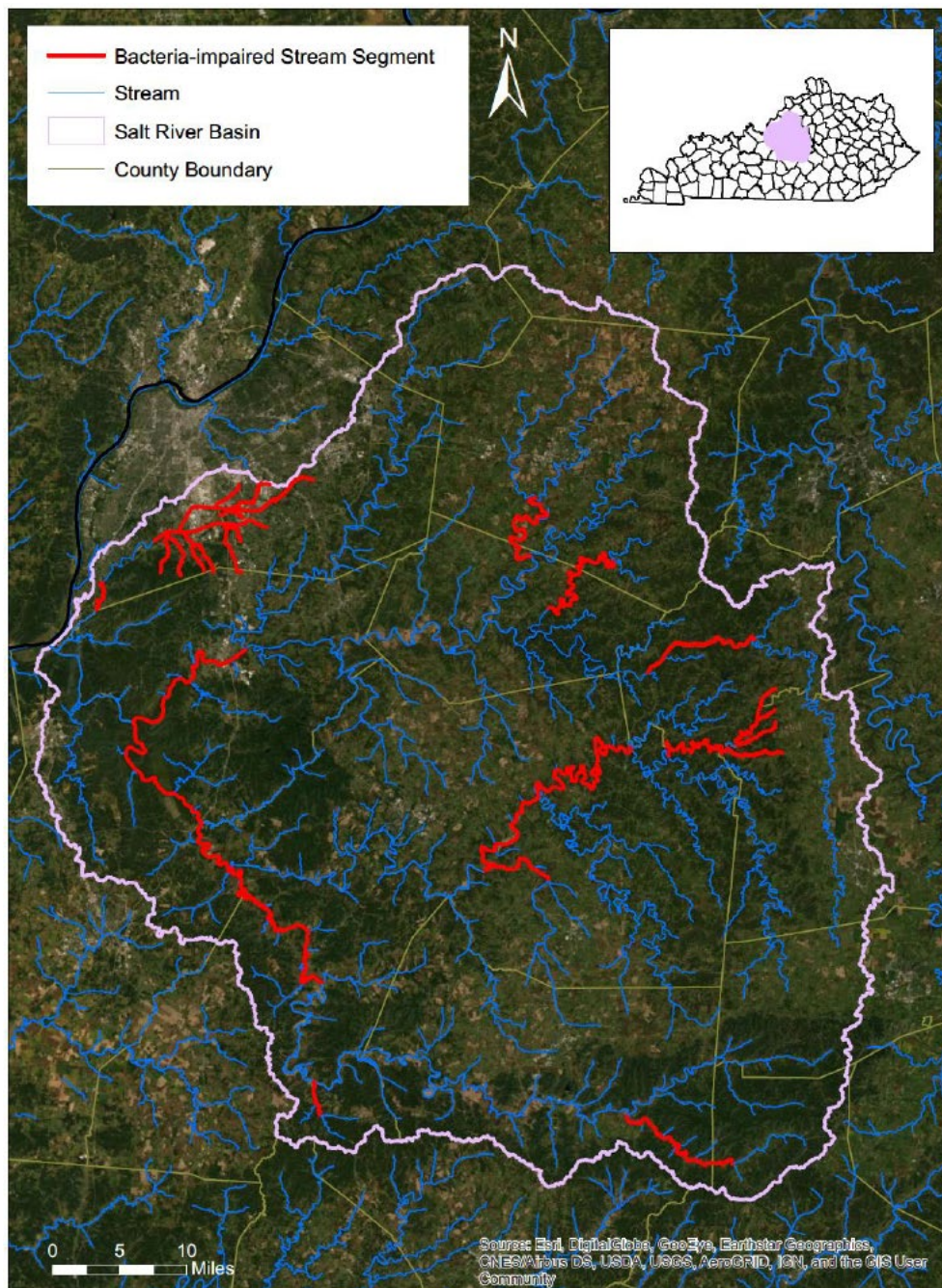
See Appendix A of this document for the waters addressed in this approval action.

Location of Waters Addressed in this TMDL Approval Action:



Bacteria impaired Waterbodies in the Licking River Basin (Figure F.1 in the Report)

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Bacteria impaired Waterbodies in the Salt River Basin (Figure K.1 in the Report)

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This document contains the EPA's review of the above-referenced TMDL. This TMDL review document includes TMDL review guidelines that summarize currently effective statutory and regulatory requirements relating to TMDLs. These TMDL review guidelines are not themselves regulations. Any differences between these guidelines and the EPA's TMDL regulations should be resolved in favor of the regulations themselves. The italicized sections of this document describe the EPA's statutory and regulatory requirements for approvable TMDLs. The sections in regular type reflect the EPA's analysis of the state's/tribe's compliance with these requirements.

Section 303(d) of the CWA and the EPA's implementing regulations at 40 CFR Part 130 set out the statutory and regulatory requirements for approvable TMDLs. The following information is generally necessary for the EPA to determine if a submitted TMDL fulfills the legal requirements for approval under Section 303(d) and the EPA regulations, and should be included in the submittal package. Use of the verb "must" below denotes information that is required to be submitted because it relates to elements of the TMDL required by the CWA and by regulation.

Introduction

The *Kentucky Statewide Bacteria Total Maximum Daily Load for Bacteria Impaired Waters* consists of a Core Document and a set of river basin appendices that are submitted as addendums to the Core Document. The core background, methodology document, and the first river basin appendices (Green River and Tradewater River) were approved by the EPA in 2019. Each appendix was designed to contain TMDLs for the bacteria-impaired segments within that basin as of the Kentucky 2016 CWA Section 303(d) list. The Core Document approval specified a process by which the KDOW could add more impaired waters to the Statewide Bacteria TMDL to address bacteria impairments in all 13 basins. The KDOW is following that process by submitting this addendum containing the Licking River and Salt River basin appendices addressed by this Decision Document. The Licking River and Salt River basin addendum presents information related to new segments being added under the Statewide Bacteria TMDL, but the addendum is not a stand-alone document. The method for developing a TMDL for each of the bacteria-impaired segments within the Licking River and Salt River basin appendices, including general information and the TMDL loadings, can be found in the Core Document. Table 1.3-3 of the Addendum, reproduced below, outlines a list of TMDL elements and their location within the Core Document or Addendum documents.

Where to Find Information in the Licking River and Salt River Basins Addendum and the Core Document

TMDL Element	Description	Location
Water Quality Standards	Describes recreational uses, water quality standards, and waterbody assessment.	Sections 1.0 and 2.0 of Core TMDL
Water Quality Criteria	Provides the indicator bacteria used to assess pathogen levels in waterbodies and the bacteria standards for Kentucky's surface waters.	Section 1.3 of addendum
Physical Setting	Provides an overview of Kentucky's physical setting including soils, geology, and hydrology.	Section 3.0 of Core TMDL

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TMDL Element	Description	Location
Source Assessment	Defines point and non-point sources of bacteria pollution and provides examples of bacteria sources that affect Kentucky's waterbodies.	Section 4.0 of Core TMDL
Monitoring and Data Validation	Describes the types of data used for assessment and TMDL development.	Section 5.0 of Core TMDL
TMDL Development	Provides a description of the TMDL calculation process and of required components such as the margin of safety factor, seasonality, and critical conditions.	Section 6.0 of Core TMDL
Implementation	Provides a description of the implementation process (e.g., permit translation, development of watershed plans, coordination with local stakeholders, types of funding assistance, and other resources.)	Section 7.0 of Core TMDL
Public Participation	Provides a summary of the process used to solicit public comment on the core TMDL document and DOW response to those comments.	Section 2.0 of addendum
MS4 Communities in Kentucky	Provides a list organized by county of Municipal Separate Storm Sewer System (MS4) communities in Kentucky (as of September 2018.)	Appendix A of Core TMDL
Percent of Households Serviceable by Sewer	Provides the percent of households serviceable by sewer in Kentucky (2010). The list is organized by county and includes county population totals, and total number of households and serviceable households.	Appendix B of Core TMDL
National Land Cover Database Classification Descriptions (NLCD 2011)	Defines the nationwide land cover classifications. The descriptions provide information on land cover and land use.	Appendix P of Core TMDL

1. Description of Waterbody, Pollutant of Concern and Pollutant Sources

The TMDL analytical document must identify the waterbody as it appears on the state's/tribe's Section 303(d) list, including the pollutant of concern. The TMDL submittal must include a description of the point and nonpoint sources of the pollutant of concern, including the magnitude and location of the sources. Where it is possible to separate natural background from nonpoint sources, a description of the natural background must be provided, including the magnitude and location of the source(s). Such information is necessary for the EPA's review of the load and wasteload allocations, which is required by regulation. The TMDL submittal should also contain a description of any important assumptions made in developing the TMDL, such as: (1) the assumed distribution of land use in the watershed; (2) population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources; (3) present and future growth

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trends, if taken into consideration in preparing the TMDL; and, (4) explanation and analytical basis for expressing the TMDL through surrogate measures, if applicable. Surrogate measures are parameters such as percent fines and turbidity for sediment impairments, or chlorophyll a, and phosphorus loadings for excess algae.

The KDOW utilizes a watershed management framework approach to water quality management. The framework divides Kentucky's major drainage basins into five groups of basins, which are cycled through a five year staggered process that involves monitoring, assessment, prioritization, plan development, and plan implementation. Section 5.0 of the Core Document provides an overview of the KDOW process for monitoring and data validation.

There are 82 waterbody-pollutant combinations in the Licking River basin (HUC8s 05100101 and 05100102) and 28 waterbody-pollutant combinations in the Salt River basin (HUC8s 05140102 and 05140103) are impaired because of elevated bacteria. Tables F.1 and K.1 of the Addendum provide a summary of the stream segments in the Licking River basin and Salt River basin, respectively, that have been included on the Section 303(d) list for impairment due to fecal coliform and/or *E. coli*. The Addendum also includes maps of the Licking River and Salt River basins identifying the impaired segments (Figures F.1 and K.1, respectively).

There are 20 facilities located in or upstream of the impaired segments in the Licking and Salt basins that have Kentucky Pollutant Discharge Elimination System (KPDES) permits authorizing the discharge of treated effluent directly into segments, 12 of which are Sanitary Wastewater Systems (SWS), seven that are MS4s, and one that is a Combined Sewer Overflow (CSO). For more specific information on point sources and KPDES permittees in the Appendices, see Section 5 of this Decision Document and Appendix F and K of the Addendum. Common nonpoint sources in Kentucky include wildlife, agriculture, animal feeding operations, human waste, household pets, and prohibited sources. See Section 4.0 of the Core Document for additional information about point and nonpoint sources in Kentucky.

Predominant land cover in the Licking River basin is deciduous forest (44.7%), followed by pasture/hay (36.5%), open developed (4.8%), and grassland/herbaceous (3.2%). Land cover is summarized for the Licking River basin in Table F.2 and Figure F.2 of the Addendum. Predominant land cover in the Salt River basin is deciduous forest (44.6%), followed by pasture/hay (30.4%), cultivated crops (7.3%), and open developed (5.2%). Land cover is summarized for the Salt River basin in Table K.2 and Figure K.2 of the Addendum.

Assessment: The EPA concludes that the KDOW has adequately identified the impaired waterbodies, the pollutants of concern, and the magnitude and location of the pollutant sources in the Licking River and Salt River basins addressed in this Submittal.

2. Description of the Applicable Water Quality Standards and Numeric Water Quality Target

The TMDL submittal must include a description of the applicable state/tribe water quality standard, including the designated use(s) of the waterbody, the applicable numeric or narrative water quality criterion, and the statewide antidegradation policy. Such information is necessary for the EPA's review of the load and wasteload allocations which is required by regulation. A numeric water quality target

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for the TMDL (a quantitative value used to measure whether or not the applicable water quality standard is attained) must be identified. If the TMDL is based on a target other than a numeric water quality criterion, then a numeric expression, usually site specific, must be developed from a narrative criterion and a description of the process used to derive the target must be included in the submittal.

The targets for the TMDL are derived from KDOW's Water Quality Standards, 401 Kentucky Administrative Regulations (KAR) 10:031, which are further summarized in Table 1.3-1 in the Report:

The Primary Contact Recreation (PCR) Water Quality Criteria (WQC) are in effect from May 1 through October 31. For this designated use, 401 KAR 10:031 Section 7(1)(a) states that:

Escherichia coli content shall not exceed 130 colonies per 100 ml as a geometric mean based on not less than five (5) samples taken during a thirty (30) day period. Content also shall not exceed 240 colonies per 100 ml in twenty (20) percent or more of all samples taken during a thirty (30) day period for Escherichia coli. Fecal coliform criteria listed in subsection (2)(a) of this section shall apply during the remainder of the year.

The Secondary Contact Recreation (SCR) WQCs are in effect for the entire year. 401 KAR 10:031 Section 7(2)(a) states:

Fecal coliform content shall not exceed 1000 colonies per 100 ml as a monthly geometric mean based on not less than five (5) samples per month; nor exceed 2000 colonies per 100 ml in twenty (20) percent or more of all samples taken during a thirty (30) day period.

Prior to November 1, 2019, PCR criteria also existed for fecal coliform. Those expired WQC are summarized in Table 1.3-2 of the Addendum for informational purposes. Prior to the expiration of the fecal coliform PCR criteria, several waterbodies in the Licking River and Salt River Basins had been assessed as failing to meet those WQC and were listed as impaired due to fecal coliform. The TMDLs for waterbodies with PCR fecal coliform impairments were calculated in the Addendum using the *E. coli* criteria since the *E. coli* WQC must be met for a waterbody to support the PCR designated use. Tables F.1 and K.1 of the Addendum reproduced in Appendix A of this document, "Waters Addressed in this TMDL Approval Action," identify both the listed pollutant and the TMDL pollutant to make it clear when a segment was listed for fecal coliform, but *E. coli* criteria were used to calculate the TMDL.

The KDOW developed TMDLs through the use of a flow-based equation. Targets for each applicable WQC were calculated using the TMDL equation based on the type, timing, and amount of data collected for each impaired segment. Section 6.1 of the Core Document notes that the term "WQC" in the flow-based equations incorporates the full definition of each applicable criterion as specified in 401 KAR 10:031 Section 7. The criteria for geometric means specify a concentration benchmark, an averaging period, a minimum number of samples, and season when applied. The criteria for single sample maxima specify a concentration benchmark, a percent exceedance, a sample collection period, and season when applied. Loads based on the WQC accordingly incorporate all the elements included in the WQC. Details on the data collected for each waterbody are included in the Appendices F and K of the Addendum.

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The designated use classifications for each waterbody addressed in the Report are PCR and/or SCR and are identified in Appendices F and K of the Addendum, as well as Appendix A of this document. PCR or SCR waters are defined, respectively, as “waters suitable for full body contact recreation during the recreation season of May 1 through October 31” or “waters suitable for partial body recreation, with minimal threat to public health due to water quality” (401 KAR 10:001).

Assessment: The EPA concludes that the KDOW has properly addressed its water quality standards when setting numeric water quality targets.

3. Loading Capacity - Linking Water Quality and Pollutant Sources

As described in the EPA guidance, a TMDL identifies the loading capacity of a waterbody for a particular pollutant. The EPA regulations define loading capacity as the greatest amount of loading that a water can receive without violating water quality standards (40 CFR Section 130.2(f)). The loadings are required to be expressed as either mass-per-time, toxicity, or other appropriate measure (40 CFR Section 130.2(i)). The TMDL submittal must identify the waterbody’s loading capacity for the applicable pollutant and describe the rationale for the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources. In most instances, this method will be a water quality model. Supporting documentation for the TMDL analysis must also be contained in the submittal, including the basis for assumptions, strengths and weaknesses in the analytical process, results from water quality modeling, etc. Such information is necessary for the EPA’s review of the load and wasteload allocations which is required by regulation.

In many circumstances, a critical condition must be described and related to physical conditions in the waterbody as part of the analysis of loading capacity (40 CFR Section 130.7(c)(1)). The critical condition can be thought of as the “worst case” scenario of environmental conditions in the waterbody in which the loading expressed in the TMDL for the pollutant of concern will continue to meet water quality standards. Critical conditions are the combination of environmental factors (e.g., flow, temperature, etc.) that results in attaining and maintaining the water quality criterion and has an acceptably low frequency of occurrence. Critical conditions are important because they describe the factors that combine to cause a violation of water quality standards and will help in identifying the actions that may have to be undertaken to meet water quality standards.

Section 6 of the Core Document describes the KDOW method for determination of the loading capacity (i.e., “TMDL”), which is expressed as a function of flow (Q), based on the applicable WQC value according each segment’s use designation. A flow-based TMDL equation is provided in Table S.3 of the Core Document, as well as at the end of this document.

As described in Section 6.1 of the Core Document, the KDOW derived the flow-based equations shown in Table S.3 of the Core Document from the standard equation: $TMDL = \sum WLA + \sum LA + MOS$, to include segment, upstream, and tributary bacteria loads expressed as colonies per day. Upstream and tributary contributions represent an aggregate of point and nonpoint sources; segment allocations are broken into equations to represent SWS, MS4, and CSO point sources, and nonpoint sources. Waterbody specific TMDL allocation equations are detailed in Appendices F and K of the Addendum for the impaired segments in the Licking River and Salt River basins, respectively.

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Section 6.1 of the Core Document notes that the term “WQC” in the flow-based equations incorporate the full definition of each applicable criterion as specified in 401 KAR 10:031 Section 7; therefore, calculation of loads for each impaired segment based on the applicable criteria and associated flow will meet the WQC.

Assessment: The EPA concludes that the process to determine the loading capacity has been appropriately designed to establish a level necessary to attain and maintain the applicable water quality standard. The TMDL is based on a reasonable approach for establishing the relationship between pollutant loading and water quality.

4. Load Allocation (LA)

The EPA regulations require that a TMDL include LAs, which identify the portion of the loading capacity allocated to existing and future nonpoint sources and to natural background (40 CFR Section 130.2(g)). Load allocations may range from reasonably accurate estimates to gross allotments (40 CFR Section 130.2(g)). Where it is possible to separate natural background from nonpoint sources, load allocations should be described separately for background and for nonpoint sources.

If the TMDL concludes that there are no nonpoint sources and/or natural background, or the TMDL recommends a zero load allocation, the LA must be expressed as zero. If the TMDL recommends a zero LA after considering all pollutant sources, there must be a discussion of the reasoning behind this decision, since a zero LA implies an allocation only to point sources will result in attainment of the applicable water quality standard, and all nonpoint and background sources will be removed.

Nonpoint source pollution from bacteria is correlated to land use and typically results from discharge of pollutants to surface water in response to rain events. Sources can include wildlife, Kentucky’s no discharge operational permits, agriculture, animal feeding operations, human waste (i.e., failing septic systems), and household pets. General descriptions of these sources are discussed in Sections 4.2.1 through 4.2.6 of the Core Document. Detailed information on nonpoint sources across the Commonwealth is provided in Figures 4.2-1 through 4.2-6, as well as Tables 4.2-1 through 4.2-3 of the Core Document. The loads to surface water from non-KPDES permitted sources are regulated by laws such as the Kentucky Agricultural Water Quality Act (AWQA, KRS 224.71-100 through 224.71-145, i.e., implementation of individual agriculture water quality plans and corrective measures), the federal CWA (i.e., the TMDL process) and 401 KAR 5:037 (Groundwater Protection Plans), among others.

The LA for each segment is expressed as a flow-based equation that is equal to the sum flow due to nonpoint sources multiplied by the appropriate WQC based on the segment’s designated use and a conversion factor, which converts bacteria concentration to a daily load. LAs equations are provided for each segment in the Licking River and Salt River basins in Appendices F and K, respectively, of the Addendum.

Assessment: The EPA concludes that the expressions provided in the Report to calculate LAs are reasonable and will result in attainment of the water quality standards.

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5. Wasteload Allocation (WLA)

The EPA regulations require that a TMDL include WLAs, which identify the portion of the loading capacity allocated to existing and future point sources (40 CFR Section 130.2(h)). If no point sources are present or if the TMDL recommends a zero WLA for point sources, the WLA must be expressed as zero. If the TMDL recommends a zero WLA after considering all pollutant sources, there must be a discussion of the reasoning behind this decision, since a zero WLA implies an allocation only to nonpoint sources and background will result in attainment of the applicable water quality standard, and all point sources will be removed.

In preparing the wasteload allocations, it is not necessary that each individual point source be assigned a portion of the allocation of pollutant loading capacity. When the source is a minor discharger of the pollutant of concern or if the source is contained within an aggregated general permit, an aggregated WLA can be assigned to the group of facilities. However, it is necessary to allocate the loading capacity among individual point sources as necessary to meet the water quality standard.

The TMDL submittal should also discuss whether a point source is given a less stringent wasteload allocation based on an assumption that nonpoint source load reductions will occur. In such cases, the state/tribe will need to demonstrate reasonable assurance that the nonpoint source reductions will occur within a reasonable time.

The WLA for each segment is divided into SWS, MS4, and CSO components, as applicable; each component is expressed as a daily load in a flow-based equation that is equal to the sum of flow from that source multiplied by the appropriate WQC based on the segment's designated use and a conversion factor.

Section 7.1.1 of the Core Document describes how the flow-based WLAs provided for each type of entity should be translated into permits. SWS-WLAs will be translated into KPDES permit limits as an *E. coli* effluent gross limit of 130 colonies/100 ml as a monthly average and 240 colonies/100 ml as a maximum weekly average. Fecal coliform limits are no longer included due to the expiration of the PCR fecal coliform criteria and the fact that for SCR-impaired segments, SWS sources had to meet the PCR criterion year-round.

Table 4.1-1 of the Core Document lists all Kentucky communities with CSOs as of September 2016; Figure 4.1-1 shows the locations of communities with CSO sites (Commonwealth of Kentucky, 2017). The KDOW provides the following assumptions to facilitate implementation of the CSO-WLA: dry weather CSO flows are prohibited and CSO entities are expected to comply with a Long Term Control Plan or KPDES permit designed to meet WQS.

Figure 4.1-2 of the Core Document shows the locations of all MS4 communities in the Commonwealth and a table with further information appears in Appendix A of the Core Document. The KDOW provides the following assumptions to facilitate implementation of the MS4-WLA in the permit:

- The MS4-WLA is not an end-of-pipe limit;

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- The MS4-WLA is an aggregate of the in-stream contribution of all MS4 outfalls within the MS4 jurisdiction, not the stormwater contribution from individual MS4 outfalls;
- MS4-WLA will be addressed through the MS4 permit and implemented through the Storm Water Quality Management Plan; and
- A MS4 permittee is compliant with its MS4-WLA if it is compliant with its KPDES permit.

There are 20 facilities located in or upstream of the impaired segments in the Licking River and Salt River basins that have KPDES permits authorizing the discharge of treated effluent directly into segments. Twelve of the directly discharging facilities are SWS: three individual family residences with on-site wastewater treatment systems (KYG402076, KYG400052, KYG402753); Kentucky American Water Co - Millersburg (KY0020940), Mount Sterling Hinkston Creek sewage treatment plant (STP, KY0104400), West Liberty STP (KY0089567), Owingsville STP (KY0024287), Paris STP (KY0090654), Strodes Creek STP (KY0037991), Bradfordsville STP (KY0090719), Lebanon Junction STP (KY0104043), and Shepherdsville STP (KY0027359).

Seven of the other permitted dischargers are MS4s: one Phase I MS4: Louisville Metropolitan Sewer District (MSD, KYS000002); and six Phase II MS4s: Sanitation District No. 1 of Northern Kentucky (KYG200007; co-permittees: Taylor Mill, Wilder, and Newport MS4), Covington (KYG200064), the Kentucky Department of Transportation (KDOT; KYS000003), the City of Winchester (KYG200043), the City of Cold Spring (KYG200057), and Bullitt County Fiscal Court (KYG200039). The permits for Sanitation District No. 1 of Northern Kentucky, the City of Winchester, the KDOT, and Louisville MSD address discharges impacting several segments. Under the Sanitation District No. 1 of Northern Kentucky – Dry Creek’s KPDES permit (KY0021466), there are 32 permitted CSO outfalls. Any new discharger must meet the KDOW permitting requirement and not cause or contribute to impairment.

WLA equations are provided for each segment in the Appendices F and K of the Addendum.

Assessment: The EPA concludes that the expressions provided in the Report to calculate WLAs are reasonable and will result in attainment of water quality standards. The TMDL accounts for all point sources discharging to impaired segments in the watershed and the WLAs incorporate the full definition of each applicable criterion and require that bacteria concentrations comply with WQC (TMDL targets). This is incorporated in to the SWS permit limits at the point of discharge.

6. Margin of Safety (MOS)

The statute and regulations require that a TMDL include a margin of safety to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality [CWA Section 303(d)(1)(C), 40 CFR Section 130.7(c)(1)]. The EPA 1991 guidance explains that the MOS may be implicit, i.e., incorporated into the TMDL through conservative assumptions in the analysis, or explicit, i.e., expressed in the TMDL as loadings set aside for the MOS. If the MOS is implicit, the conservative assumptions in the analysis that account for the MOS must be described. If the MOS is explicit, the loading set aside for the MOS must be identified.

As indicated in footnote (9) to Table S.3 and Section 6.2 of the Core Document, an implicit MOS was applied in the statewide approach for all TMDLs, based on the following assumptions:

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1. Upstream and tributary bacterial concentrations were at the maximum allowable limit; there was no dilution capacity from these areas.
2. Although all sources were provided an allocation at the WQC, not all sources discharged at that maximum allocation at the same time.
3. There was no bacteria die-off. In reality, bacteria concentrations diminish downstream from their source; thus, bacteria loads to the upper portion of a segment would diminish prior to reaching the lower portion of the segment.
4. For SCR-impaired segments, SWS sources had to meet the PCR criterion year-round.

Assessment: The EPA concludes that the TMDL incorporates an adequate margin of safety.

7. Seasonal Variation

The statute and regulations require that a TMDL be established with consideration of seasonal variations. The method chosen for including seasonal variations in the TMDL must be described [CWA Section 303(d)(1)(C), 40 CFR Section 130.7(c)(1)].

For stormwater and nonpoint sources, the instream WQC vary for the PCR and SCR seasons. Seasonality was addressed in the Addendum for these sources by requiring that the WQC be met instream during all seasons, applying the appropriate PCR or SCR criteria, and over the range of flow conditions that occur.

For sanitary wastewater bacteria sources, seasonality was addressed in the TMDL calculations by requiring KPDES-permitted sanitary wastewater facilities to meet end-of-pipe limits based on the PCR WQC throughout the year (a permit requirement).

Seasonality is discussed further in Section 6.3 of the Core Document.

Assessment: The EPA concludes the TMDL allocations ensure protection of water quality standards throughout all seasons.

8. Monitoring Plan to Track TMDL Effectiveness

The EPA's 1991 document, Guidance for Water Quality-Based Decisions: The TMDL Process (EPA 440/4-91-001), recommends a monitoring plan to track the effectiveness of a TMDL, particularly when a TMDL involves both point and nonpoint sources, and the WLA is based on an assumption that nonpoint source load reductions will occur. Such a TMDL should provide assurances that nonpoint source controls will achieve expected load reductions, and such a TMDL should include a monitoring plan that describes the additional data to be collected to determine if the load reductions provided for in the TMDL are occurring and leading to attainment of water quality standards.

The KDOW utilizes a watershed management framework approach to water quality management. The framework divides Kentucky's major drainage basins into five groups of basins which are cycled through a five year staggered process that involves monitoring, assessment, prioritization, plan development, and plan implementation. There are also currently nine watershed-based plans (WBPs) in

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the Licking River basin addressing the following planning areas: Banklick Creek, Dry Creek, Gunpowder Creek, Hancock Creek, Hinkston Creek, Kinniconick Creek, Stockton Creek, Triplett Creek, and Woolper Creek. There are three WBP in the Salt River basin addressing Curry's Fork, Darby Creek, and Sulphur Creek, with a fourth in development for the Floyds Fork watershed. The WBPs provide a comprehensive assessment of the health of the watershed addressed in each plan, citizen and stakeholder concerns, watershed remediation strategies, and implementation plans for the future. Monitoring plans are included in the WBPs to track impairment status in their respective watersheds.

In addition, the Watershed Management Branch and Kentucky Waterways Alliance have jointly published the Watershed Planning Guidebook for Kentucky Communities. The publication provides guidance on forming a watershed planning team, developing supportive partnerships, understanding watershed hydrology, finding data sources, monitoring for new data, analyzing data, selecting best management practices (BMPs), securing funding, and measuring progress of plan implementation. Segment-specific monitoring information can be found in Appendices F and K of the Addendum.

Assessment: Although not a required element of the EPA's TMDL approval process, the KDOW provided adequate information about its rotating basin monitoring plans and other initiatives that could be established to evaluate the progress toward attainment of water quality standards. The EPA is taking no action on the monitoring plan.

9. Implementation Plans

On August 8, 1997, Bob Perciasepe (the EPA Assistant Administrator for the Office of Water) issued a memorandum, "New Policies for Establishing and Implementing Total Maximum Daily Loads (TMDLs)," that directs regions to work in partnership with states/tribes to achieve nonpoint source load allocations established for Section 303(d)-Listed waters impaired solely or primarily by nonpoint sources. To this end, the memorandum asks that regions assist states/tribes in developing implementation plans that include reasonable assurances that the nonpoint source load allocations established in TMDLs for waters impaired solely or primarily by nonpoint sources will in fact be achieved. The memorandum also includes a discussion of renewed focus on the public participation process and recognition of other relevant watershed management processes used in the TMDL process. Although implementation plans are not approved by the EPA, they help establish the basis for the EPA's approval of TMDLs.

Section 7.0 of the Core Document discusses several options to support implementation of bacteria allocations.

For KPDES-permitted sources of bacteria to impaired waterbodies, an approved TMDL is implemented through the permitting process. SWS-WLAs will be translated into KPDES permit limits as an *E. coli* effluent gross limit of 130 colonies/100 ml as a monthly average and 240 colonies/100 ml as a maximum weekly average. New or expanded SWS sources will be allowed to discharge to an impaired segment covered by the Addendum contingent upon them meeting the PCR bacterial WQCs found in 401 KAR 10:031. In contrast to the continuously flowing discharges from SWS facilities, permitted discharges from stormwater sources are intermittent and vary widely in flow, composition, and duration. Because of the complexity of stormwater discharges, KDOW follows the EPA-recommended process of

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having the permitting authority express the limits for Phase I and II stormwater permittees in narrative, rather than numeric, terms when translating the WLA into effluent limitations in the permit. Narrative requirements often are expressed in the permit as BMPs or other stormwater management measures.

Nonpoint sources' compliance with the LA is voluntary, and many of these sources are not regulated by the KDOW. Thus, reducing the bacteria load from nonpoint sources will depend on voluntary actions by citizens, property owners, and other stakeholders who use the land resources within the watershed of an impaired water. Under Kentucky's continuing planning process umbrella, the KDOW's Watershed Management Branch will provide technical support for developing and implementing watershed plans to address water quality and quantity problems and threats. Within the Watershed Management Branch and through the Kentucky Management Framework, a basin coordinator is assigned to work with citizens in both the Licking River and Salt River basins. Currently, the basin coordinators are Mahtaab Bagherzadeh for the Licking River, and Perry Thomas for the Salt River basin. They serve as facilitators for agency activities and as points of contact for local organizations interested in addressing clean water issues. Additionally, non-governmental organizations, such as Watershed Watch and Kentucky Waterways Alliance, assists in monitoring and data collection as well as networking and creating alliances for watershed stewardship.

As mentioned above in Section 8 of this document, local watershed teams may choose to develop a WBP to detail conditions in their watershed and guide efforts to protect and restore threatened or impaired waters. WBPs provide an integrative approach for identifying and describing who, when, where, what, and how actions should be taken in order to meet water quality standards. There are currently 12 WBPs in Licking River and Salt River basins, which include implementation plans outlining the most effective BMPs for the target watersheds, interested and invested stakeholders, and action items relating to each BMP. There is also an additional WBP in draft stages in the Salt River basin. The detailed plans are located on the Licking River and Salt River Basins Coordination webpages at the following addresses: Licking River basin: <https://eec.ky.gov/Environmental-Protection/Water/Outreach/BasinCoordination/Pages/LickingRiverBasin.aspx>; Salt River basin: <https://eec.ky.gov/Environmental-Protection/Water/Outreach/BasinCoordination/Pages/SaltRiverBasin.aspx>.

Assessment: Although not a required element of the TMDL approval, the KDOW discussed how information derived from the TMDL analysis process can be used to support implementation of the TMDLs. The EPA is taking no action on the implementation portion of the Submission.

10. Reasonable Assurances

The EPA guidance calls for reasonable assurances when TMDLs are developed for waters impaired by both point and nonpoint sources. In a water impaired by both point and nonpoint sources, where a point source is given a less stringent wasteload allocation based on an assumption that nonpoint source load reductions will occur, reasonable assurance that the nonpoint source reductions will happen must be explained in order for the TMDL to be approvable. This information is necessary for the EPA to determine that the load and wasteload allocations will achieve water quality standards.

In a waterbody impaired solely by nonpoint sources, reasonable assurances that load reductions will be achieved are not required in order for a TMDL to be approvable. However, for such nonpoint source-

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only waters, states/tribes are strongly encouraged to provide reasonable assurances regarding achievement of load allocations in the implementation plans described in Section 9, above. As described in the August 8, 1997 Perciasepe memorandum, such reasonable assurances should be included in state/tribe's implementation plans and "may be non-regulatory, regulatory, or incentive-based, consistent with applicable laws and programs."

The loads to surface water from non-KPDES permitted sources are regulated by laws such as the Kentucky Agricultural Water Quality Act (AWQA, KRS 224.71-100 through 224.71-145, i.e., implementation of individual agriculture water quality plans and corrective measures), the federal CWA (i.e., the TMDL process) and 401 KAR 5:037 (Groundwater Protection Plans), among others.

As described above, basin coordinators work with a variety of government agencies, local officials, nonprofit groups, businesses, citizens, and other stakeholders to develop and support a local watershed management team associated with each priority watershed. Coordinators bring together the ongoing efforts in the watershed to evaluate water quality, educate the general public, identify common goals, secure needed funding, and carry out watershed improvement activities. They build community support by promoting awareness of issues, developing relationships, and involving partners in projects, which creates a network of stakeholders with a vested interest in the success of the effort.

Also as mentioned above in Sections 8 and 9 of this document, there are currently 12 final WBPs and one draft WBP in the Licking River and Salt River basins. The plans detail the strategy and workplans to implement restoration efforts in the basins. More details can be found on the KDOW Basin Coordination webpage:

<https://eec.ky.gov/Environmental-Protection/Water/Outreach/BasinCoordination/Pages/default.aspx>.

Cooperation and active participation by the general public and various industry, business, and environmental groups is critical to successful implementation of TMDLs. The Core Document links to a number of publications and information resources on the EPA's Nonpoint Source Pollution webpage (<http://www.epa.gov/polluted-runoff-nonpoint-source-pollution>) relating to the implementation and evaluation of nonpoint source pollution control measures. Local citizen-led and implemented management measures have the potential to provide the most efficient and comprehensive avenue for reduction of loading rates from nonpoint sources. The KDOW supports these efforts through the Kentucky Nonpoint Source Pollution Control Program, which awards grants to projects that focus on reducing nonpoint source pollution in the Commonwealth.

Assessment: The EPA considered the reasonable assurances contained in the Core Document and Addendum. Point sources are required to comply with their KPDES permits, which must include the requirements and assumptions of the TMDL. The point sources must meet the criteria at the point of discharge in order to meet the regulatory definition of "not causing or contributing to a water quality violation." Reductions for nonpoint sources are expected to occur as a result of the incentive and voluntary programs already in place.

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11. Public Participation

The EPA policy is that there must be full and meaningful public participation in the TMDL development process. Each state/tribe must, therefore, provide for public participation consistent with its own continuing planning process and public participation requirements (40 CFR Section 130.7(c)(1)(ii)). In guidance, the EPA has explained that final TMDLs submitted to the EPA for review and approval must describe the state/tribe's public participation process, including a summary of significant comments and the state/tribe's responses to those comments. When the EPA establishes a TMDL, the EPA regulations require the EPA to publish a notice seeking public comment (40 CFR Section 130.7(d)(2)).

Inadequate public participation could be a basis for disapproving a TMDL; however, where the EPA determines that a state/tribe has not provided adequate public participation, the EPA may defer its approval action until adequate public participation has been provided for, either by the state/tribe or by the EPA.

The Report was made available to the public for review and comment starting August 2, 2021 and ending September 3, 2021. The KDOW provided the opportunity for public involvement via several avenues. Legal advertisements were purchased in the following local newspapers throughout the state: *Lexington Herald-Leader* (Lexington, Fayette Co.), *Courier-Journal* (Louisville, Jefferson Co.), *The Daily Independent* (Ashland, Boyd Co.), *Appalachian News-Express* (Pikeville, Pike Co.), *Kentucky Enquirer* (Ft. Mitchell, Kenton Co.), and *News-Enterprise* (Elizabethtown, Hardin Co.).

Notice of the public comment period was posted on the Division of Water's Public Notices website and distributed to the TMDL email distribution list (TMDL@ky.gov), which is a list of persons who expressed interest in receiving information and announcements related to the Kentucky 303(d) and TMDL program. The announcement also was distributed to the Nonpoint Source Pollution Control email list of persons interested in water quality issues (ollietheotter@ky.gov), posted to the Kentucky Energy and Environment Cabinet's (EEC) weblog *Naturally Connected*, the Kentucky EEC Facebook page, and the Kentucky EEC Twitter page.

No comments were received during the public notice period. Section 2.0 of the Addendum further details public participation information.

Assessment: No comments were received during the public notice period. The EPA concludes that the KDOW involved the public during the development of the TMDL and provided adequate opportunities for the public to comment on the Report.

12. Submittal Letter

A submittal letter should be included with the TMDL analytical document and should specify whether the TMDL is being submitted for a technical review or is a final submittal. Each final TMDL submitted to the EPA must be accompanied by a submittal letter that explicitly states that the submittal is a final TMDL submitted under Section 303(d) of the CWA for the EPA review and approval. This clearly establishes the state/tribe's intent to submit, and the EPA's duty to review the TMDL under the statute. The submittal letter, whether for technical review or final submittal, should contain such information as the name and location of the waterbody and the pollutant(s) of concern.

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Assessment: A letter with appropriate information was included with the final Submission from the KDOW dated September 14, 2021 and signed by Carey Johnson, Director, Division of Water.

13. Conclusion

After a full and complete review, the EPA finds that the *Addendum to Kentucky Statewide Total Maximum Daily Load (TMDL) for Bacteria Impaired Waters: Licking River and Salt River Basin Appendices* satisfies all of the elements of approvable TMDLs. This **APPROVAL** is for 110 TMDLs, addressing 98 waterbodies in the Licking River and Salt River basins for use impairments due to *E. coli* and/or fecal coliform.

This Submission is not a stand-alone document. It relies on the TMDL loading equations and the general information outlined in the Core Document, *Kentucky Statewide Total Maximum Daily Load for Bacteria Impaired Waters*, that was approved by the EPA in 2019. The Core Document details the methodology and process that the KDOW uses to establish bacteria TMDLs statewide and provides general information that is relevant to all bacteria impaired segments, regardless of location. The TMDLs in this Report are being submitted for approval as an addendum to the Core Document submission.

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Segment TMDL Allocations from Table S.3 of the Core Document:

TMDL ⁽²⁾	Allocations for Direct Loads to the Segment				Allocations for Upstream Loads to the Segment ⁽⁷⁾	Allocations for Tributary Loads to the Segment ⁽⁸⁾	MOS ⁽⁹⁾
	SWS-WLA ⁽³⁾	MS4-WLA ⁽⁴⁾	CSO-WLA ⁽⁵⁾	LA ⁽⁶⁾			
$Q_S \times WQC \times CF$	$\Sigma(Q_{SWS} \times WQC \times CF)$	$\Sigma(Q_{MS4} \times WQC \times CF)$	$\Sigma(Q_{CSO} \times WQC \times CF)$	$\Sigma(Q_{LA} \times WQC \times CF)$	$\Sigma(Q_{Upstream} \times WQC \times CF)$	$\Sigma(Q_{Tributary} \times WQC \times CF)$	Implicit

⁽¹⁾All loads are colonies/day of either *E. coli* or fecal coliform. The recreational use bacterial WQCs are found in 401 KAR 10:031. CF is the conversion factor (24,465,758.4 s-ml/ft³-day) to change the product of bacterial concentration (colonies/100 ml) and flow (ft³/s) into a load (colonies/day). The symbol “ Σ ” indicates that the total allocation is the sum of all the individual allowable loads.

⁽²⁾ Q_S is the flow (ft³/s) in the segment.

⁽³⁾ Q_{SWS} is the flow (ft³/s) in the segment due to a SWS entity. New or expanded SWS sources will be allowed to discharge to the segment contingent upon them meeting the PCR bacterial WQCs found in 401 KAR 10:031. SWS-WLAs will be translated into KPDES permit limits as an *E. coli* effluent gross limit of 130 colonies/100 ml as a monthly average and 240 colonies/100 ml as a maximum weekly average or as a fecal coliform effluent gross limit of 200 colonies/100 ml as a monthly average and 400 colonies/100 ml as a maximum weekly average.

⁽⁴⁾ Q_{MS4} is the flow (ft³/s) in the segment due to an MS4 entity. The MS4-WLA is not an end-of-pipe limit. The MS4-WLA is an aggregate of the in-stream contribution of all MS4 outfalls within the MS4 jurisdiction, not the storm water contribution from individual MS4 outfalls. The MS4-WLA will be addressed through the MS4 permit and implemented through the Storm Water Quality Management Plan (SWQMP). An MS4 permittee is compliant with its MS4-WLA if it is compliant with its KPDES permit.

⁽⁵⁾ Q_{CSO} is the flow (ft³/s) in the segment due to a CSO entity. Dry weather CSO flows are prohibited. During wet weather events, a CSO entity is compliant with its CSO-WLA if it is compliant with its Long Term Control Plan and KPDES permit.

⁽⁶⁾ Q_{LA} is the flow (ft³/s) in the segment due to a LA source.

⁽⁷⁾ $Q_{Upstream}$ is the flow contribution (ft³/s) from upstream of the segment. This load includes both WLA and LA sources upstream of the impaired segment.

⁽⁸⁾ $Q_{Tributary}$ is the flow contribution (ft³/s) from a tributary to the segment. This load includes both WLA and LA sources on tributaries to the impaired segment.

⁽⁹⁾The following assumptions provide an implicit MOS:

- (a)Upstream and tributary bacterial concentrations are at the maximum allowable limit; there is no dilution capacity from these areas.
- (b)Although all sources are provided an allocation at the Water Quality Standard, not all sources discharge at this maximum allocation at the same time.
- (c)There is no bacteria die-off; in reality bacteria concentrations diminish downstream from their source. Thus, bacteria loads to the upper portion of a segment will diminish prior to reaching the lower portion of the segment.
- (d)For SCR-impaired segments, SWS sources must meet the PCR criterion year-round.

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Appendix A: Waters in the Licking River Basin and Salt River Basin Addressed in this Approval Action

Bacteria-Impaired Stream Segments in the Licking River Basin:

Waterbody Name	Waterbody ID	Impaired Use¹ (Support Status)	Listed Pollutant	TMDL Pollutant²	Suspected Source(s)
Big Brushy Creek 0.0 to 1.8	KY510632_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Non-Point Source, Package Plant or Other Permitted Small Flows Discharges
Blacks Creek 0.0 to 5.6	KY487421_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Non-Point Source, Unrestricted Cattle Access
Blackwater Creek 3.85 to 11.8	KY510765_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Boone Creek 0.0 to 5.2	KY487686_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Livestock (Grazing or Feeding Operations), Non-Point Source, Unrestricted Cattle Access
Boone Creek 5.2 to 9.1	KY487686_02	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Livestock (Grazing or Feeding Operations), Non-Point Source, On-site Treatment Systems (Septic Systems and Similar Decentralized Systems), Unrestricted Cattle Access
Buffalo Branch 0.0 to 1.6	KY511036_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Non-Point Source, Rural (Residential Areas)
Burning Fork 0.0 to 3.3	KY488450_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Christy Creek 7.2 to 9.2	KY511363_02	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Non-Point Source

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Waterbody Name	Waterbody ID	Impaired Use¹ (Support Status)	Listed Pollutant	TMDL Pollutant²	Suspected Source(s)
Cooper Run 0.0 to 10.15	KY490062_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Grazing in Riparian or Shoreline Zones, Livestock (Grazing or Feeding Operations), Non-Point Source, Unrestricted Cattle Access
Copperas Branch 0.4 to 1.5	KY511531_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Non-Point Source, Rural (Residential Areas)
Crooked Creek 0.0 to 9.4	KY490377_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Flat Creek 0.0 to 0.95	KY492182_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Flat Run 0.0 to 2.25	KY492217_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Grazing in Riparian or Shoreline Zones, Livestock (Grazing or Feeding Operations), Non-Point Source, Unrestricted Cattle Access
Flat Run 2.25 to 9.05	KY492217_02	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Grazing in Riparian or Shoreline Zones, Livestock (Grazing or Feeding Operations), Non-Point Source, Unrestricted Cattle Access
Fox Creek 0.0 to 10.1	KY512230_01	PCR (partial support)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Fox Creek 0.0 to 10.1	KY512230_01	SCR (partial support)	Fecal Coliform	Fecal Coliform	Source Unknown
Grassy Lick Creek 0.0 to 6.5	KY493166_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	CERCLA NPL (Superfund) Sites, Loss of Riparian Habitat

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Waterbody Name	Waterbody ID	Impaired Use¹ (Support Status)	Listed Pollutant	TMDL Pollutant²	Suspected Source(s)
Hays Branch 0.0 to 2.85	KY512612 01	PCR (partial support)	<i>E. coli</i>	<i>E. coli</i>	Crop Production (Crop Land or Dry Land), Managed Pasture Grazing
Hinkston Creek 0.0 to 13.25	KY494298 01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Source Unknown
Hinkston Creek 21.1 to 31.5	KY494298 03	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Rangeland Grazing
Hinkston Creek 42.4 to 51.75	KY494298 05	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Non-Point Source, Rangeland Grazing
Hinkston Creek 51.75 to 62.35	KY494298 06	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Grazing in Riparian or Shoreline Zones, Non-Point Source
Hinkston Creek 62.35 to 69.1	KY494298 07	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Municipal Point Source Discharges, Non-Point Source
Hinkston Creek 69.1 to 71.5	KY494298 08	SCR (nonsupport)	Fecal Coliform	Fecal Coliform	Non-Point Source, Rangeland Grazing, Upstream Source, Urban Runoff/Storm Sewers
Hinkston Creek 69.1 to 71.5	KY494298 08	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Non-Point Source, Rangeland Grazing, Upstream Source, Urban Runoff/Storm Sewers
Hoods Creek 0.0 to 5.9	KY494496 01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Agriculture, Loss of Riparian Habitat, Non-Point Source
Hoods Creek 0.0 to 5.9	KY494496 01	SCR (nonsupport)	Fecal Coliform	Fecal Coliform	Agriculture, Loss of Riparian Habitat, Non-Point Source
Houston Creek 0.0 to 9.1	KY494646 01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Island Fork 0.0 to 3.75	KY512940 01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Managed Pasture Grazing, Non-irrigated Crop Production
Johnson Creek 0.0 to 3.25	KY495397 01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Source Unknown

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Waterbody Name	Waterbody ID	Impaired Use¹ (Support Status)	Listed Pollutant	TMDL Pollutant²	Suspected Source(s)
Johnson Creek 0.0 to 0.9	KY495398_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Agriculture, Loss of Riparian Habitat, Non-Point Source
Johnson Creek 0.0 to 0.9	KY495398_01	SCR (nonsupport)	Fecal Coliform	Fecal Coliform	Agriculture, Loss of Riparian Habitat, Non-Point Source
Kennedy Creek 0.0 to 5.6	KY495646_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Livestock (Grazing or Feeding Operations), Non-Point Source, Unrestricted Cattle Access
Licking River 0.0 to 4.65	KY513416_01	PCR (partial support)	<i>E. coli</i>	<i>E. coli</i>	Municipal (Urbanized High Density Area), Urban Runoff/Storm Sewers
Licking River 4.65 to 14.7	KY513416_02	PCR (partial support)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Licking River 223.0 to 240.0	KY513416_12	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Licking River 223.0 to 240.0	KY513416_12	SCR (partial support)	Fecal Coliform	Fecal Coliform	Source Unknown
Little Stoner Creek 0.0 to 5.3	KY496870_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Middle Fork of Licking River 0.0 to 2.7	KY498128_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Agriculture, On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
Morgan Fork 0.0 to 2.8	KY514059_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Non-Point Source, Rural (Residential Areas), Upstream Source
North Fork Licking River 18.55 to 45.5	KY499554_02	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Agriculture

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Waterbody Name	Waterbody ID	Impaired Use¹ (Support Status)	Listed Pollutant	TMDL Pollutant²	Suspected Source(s)
North Fork Licking River 8.5 to 12.3	KY514292_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Source Unknown
North Fork Triplett Creek 1.15 to 4.85	KY514293_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Managed Pasture Grazing, Non-irrigated Crop Production, Non-Point Source
North Fork Triplett Creek 8.1 to 12.15	KY514293_02	PCR (partial support)	<i>E. coli</i>	<i>E. coli</i>	Managed Pasture Grazing, Non-irrigated Crop Production
North Fork Triplett Creek 16.95 to 18.95	KY514293_04	PCR (partial support)	<i>E. coli</i>	<i>E. coli</i>	Managed Pasture Grazing, Non-irrigated Crop Production, Non-Point Source
Phillips Creek 0.0 to 5.4	KY500540_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Plum Lick Creek 0.0 to 5.9	KY500972_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Livestock (Grazing or Feeding Operations), Non-Point Source
Pond Lick Branch 0.0 to 1.75	KY514696_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Managed Pasture Grazing, Non-irrigated Crop Production, Non-Point Source
Puncheon Camp Creek 0.0 to 1.15	KY501442_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Rock Fork 0.0 to 4.0	KY515026_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Managed Pasture Grazing, Rural (Residential Areas)
Slate Creek 0.0 to 13.55	KY515470_01	PCR (partial support)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Somerset Creek 0.0 to 4.45	KY503876_01	PCR (partial support)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Non-Point Source

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Waterbody Name	Waterbody ID	Impaired Use¹ (Support Status)	Listed Pollutant	TMDL Pollutant²	Suspected Source(s)
Somerset Creek 0.0 to 5.85 ³	KY503875_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Non-Point Source
South Fork Licking River 11.6 to 16.95	KY503932_03	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Source Unknown
Stoner Creek 0.0 to 5.55	KY504482_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Source Unknown
Stoner Creek 5.55 to 15.0	KY504482_02	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Livestock (Grazing or Feeding Operations), Non-Point Source, Unrestricted Cattle Access, Urban Runoff/Storm Sewers
Stoner Creek 17.3 to 23.5	KY504482_04	PCR (partial support)	<i>E. coli</i>	<i>E. coli</i>	Animal Feeding Operations (NPS), Livestock (Grazing or Feeding Operations), Municipal Point Source Discharges, Non-Point Source, Unrestricted Cattle Access
Stoner Creek 35.7 to 45.1	KY504482_05	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Livestock (Grazing or Feeding Operations), Municipal Point Source Discharges, Non-Point Source, Unrestricted Cattle Access
Strodes Creek 2.7 to 7.95	KY504593_01	PCR (partial support)	Fecal Coliform	<i>E. coli</i>	Agriculture, Municipal Point Source Discharges, Unspecified Urban Stormwater
Strodes Creek 2.7 to 7.95	KY504593_01	PCR (partial support)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Municipal Point Source Discharges, Non-Point Source

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Waterbody Name	Waterbody ID	Impaired Use¹ (Support Status)	Listed Pollutant	TMDL Pollutant²	Suspected Source(s)
Strodes Creek 7.95 to 19.3	KY504593 02	SCR (nonsupport)	Fecal Coliform	Fecal Coliform	Agriculture, Municipal Point Source Discharges, Non-Point Source
Strodes Creek 7.95 to 19.3	KY504593 02	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Municipal Point Source Discharges, Non-Point Source
Strodes Creek 7.95 to 19.3	KY504593 02	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Agriculture, Municipal Point Source Discharges, Non-Point Source
Strodes Creek 19.3 to 26.5	KY504593 03	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Municipal Point Source Discharges, Non-Point Source
Strodes Creek 19.3 to 26.5	KY504593 03	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Agriculture, Municipal Point Source Discharges, Non-Point Source
Strodes Creek 19.3 to 26.5	KY504593 03	SCR (nonsupport)	Fecal Coliform	Fecal Coliform	Agriculture, Municipal Point Source Discharges, Non-Point Source
Triplett Creek 0.0 to 5.85	KY516023 01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Triplett Creek 5.85 to 12.3	KY516023 02	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Municipal Point Source Discharges, Non-Point Source, Urban Runoff/Storm Sewers
Triplett Creek 5.85 to 12.3	KY516023 02	SCR (nonsupport)	Fecal Coliform	Fecal Coliform	Agriculture, Municipal Point Source Discharges, Non-Point Source, Urban Runoff/Storm Sewers

**EPA TOTAL MAXIMUM DAILY LOAD REVIEW DOCUMENT
KENTUCKY STATEWIDE BACTERIA TMDL: LICKING RIVER AND SALT RIVER BASINS**

Waterbody Name	Waterbody ID	Impaired Use¹ (Support Status)	Listed Pollutant	TMDL Pollutant²	Suspected Source(s)
Triplett Creek 12.3 to 13.8	KY516023 03	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Non-Point Source
UT of Blacks Creek 0.0 to 1.7	KY487421- 2.7 01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Livestock (Grazing or Feeding Operations), Non-Point Source, Unrestricted Cattle Access
UT of Blacks Creek 0.0 to 2.3	KY487421- 3.0 01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Livestock (Grazing or Feeding Operations), Non-Point Source, Unrestricted Cattle Access
UT of Cooper Run 0.0 to 3.8	KY490062- 5.85 01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Grazing in Riparian or Shoreline Zones, Livestock (Grazing or Feeding Operations), Non-Point Source, Unrestricted Cattle Access
UT of Cooper Run 0.0 to 1.0	KY490062- 6.95 01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Animal Feeding Operations (NPS), Grazing in Riparian or Shoreline Zones, Livestock (Grazing or Feeding Operations), Non-Point Source, Unrestricted Cattle Access
UT of Cooper Run 0.0 to 3.05	KY490062- 7.25 01	PCR (partial support)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Grazing in Riparian or Shoreline Zones, Livestock (Grazing or Feeding Operations), Non-Point Source, Unrestricted Cattle Access

**EPA TOTAL MAXIMUM DAILY LOAD REVIEW DOCUMENT
KENTUCKY STATEWIDE BACTERIA TMDL: LICKING RIVER AND SALT RIVER BASINS**

Waterbody Name	Waterbody ID	Impaired Use¹ (Support Status)	Listed Pollutant	TMDL Pollutant²	Suspected Source(s)
UT of Flat Run 0.0 to 2.1	KY492217- 3.9_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Grazing in Riparian or Shoreline Zones, Livestock (Grazing or Feeding Operations), Non-Point Source, Unrestricted Cattle Access
UT of Greenbrier Creek 0.0 to 1.35	KY493317- 2.7_01	PCR (partial support)	<i>E. coli</i>	<i>E. coli</i>	Loss of Riparian Habitat, Managed Pasture Grazing
UT of Greenbrier Creek 0.0 to 3.25	KY493317- 3.2_01	PCR (partial support)	<i>E. coli</i>	<i>E. coli</i>	Loss of Riparian Habitat, Managed Pasture Grazing
UT of Hancock Creek 0.0 to 3.72	KY493672- 4.2_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Agriculture, Loss of Riparian Habitat, Non-Point Source, Residential Districts
UT of Hancock Creek 0.0 to 3.72	KY493672- 4.2_01	SCR (nonsupport)	Fecal Coliform	Fecal Coliform	Agriculture, Loss of Riparian Habitat, Non-Point Source, Residential Districts
UT of Strodes Creek 0.0 to 3.7	KY504593- 22.2_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Loss of Riparian Habitat, Municipal (Urbanized High Density Area), Non-Point Source, Residential Districts, Urban Runoff/Storm Sewers
UT of Strodes Creek 0.0 to 3.7	KY504593- 22.2_01	SCR (nonsupport)	Fecal Coliform	Fecal Coliform	Agriculture, Loss of Riparian Habitat, Municipal (Urbanized High Density Area), Non-Point Source, Residential Districts, Urban Runoff/Storm Sewers

**EPA TOTAL MAXIMUM DAILY LOAD REVIEW DOCUMENT
KENTUCKY STATEWIDE BACTERIA TMDL: LICKING RIVER AND SALT RIVER BASINS**

Waterbody Name	Waterbody ID	Impaired Use¹ (Support Status)	Listed Pollutant	TMDL Pollutant²	Suspected Source(s)
Williams Creek 0.0 to 5.8	KY506817_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Woodruff Creek 0.0 to 3.8	KY507110_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Agriculture, Non-Point Source
Woodruff Creek 0.0 to 3.8	KY507110_01	SCR (nonsupport)	Fecal Coliform	Fecal Coliform	Agriculture, Non-Point Source

¹PCR: primary contact recreation; SCR: secondary contact recreation

²Segments with PCR impairment due to fecal coliform have a TMDL developed for *E. coli* in this document.

³The name of this waterbody was misspelled on the 2016 303(d) list. The correct spelling is Somerset Creek 0.0 to 5.85.

Bacteria-impaired Stream Segments in the Salt River Basin:

Waterbody Name	Waterbody ID	Impaired Use¹ (Support Status)	Listed Pollutant	TMDL Pollutant²	Suspected Source(s)
Beech Creek 2.85 to 18.6	KY486700_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Beech Creek 2.85 to 18.6	KY486700_01	SCR (nonsupport)	Fecal Coliform	Fecal Coliform	Source Unknown
Beech Fork 39.5 to 50.4	KY486703_02	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture
Big Bee Lick Creek 0.0 to 4.2	KY486674_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Urban Runoff/Storm Sewers
Big South Fork 0.0 to 12.65	KY487258_01	PCR (partial support)	Fecal Coliform	<i>E. coli</i>	Agriculture
Blue Spring Ditch 0.0 to 2.1	KY504133_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Brashears Creek 0.0 to 13.0	KY487840_01	PCR (partial support)	<i>E. coli</i>	<i>E. coli</i>	Agriculture, Non-Point Source

**EPA TOTAL MAXIMUM DAILY LOAD REVIEW DOCUMENT
KENTUCKY STATEWIDE BACTERIA TMDL: LICKING RIVER AND SALT RIVER BASINS**

Waterbody Name	Waterbody ID	Impaired Use¹ (Support Status)	Listed Pollutant	TMDL Pollutant²	Suspected Source(s)
Chaplin River 0.0 to 23.1	KY489350_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Agriculture
Fern Creek 0.0 to 1.3	KY492042_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Illegal Dumps or Other Inappropriate Waste Disposal, Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Fern Creek 1.3 to 4.4	KY492042_02	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Illegal Dumps or Other Inappropriate Waste Disposal, Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Fern Creek 4.4 to 5.9	KY492042_03	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Illegal Dumps or Other Inappropriate Waste Disposal, Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Fishpool Creek 0.0 to 1.9	KY492132_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Greasy Ditch 0.0 to 2.6	KY493242_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Little Bee Lick Creek 0.0 to 2.6	KY2743838_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Mud Creek 0.0 to 4.35	KY498984_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Municipal Point Source Discharges, Urban Runoff/Storm Sewers

EPA TOTAL MAXIMUM DAILY LOAD REVIEW DOCUMENT
KENTUCKY STATEWIDE BACTERIA TMDL: LICKING RIVER AND SALT RIVER BASINS

Waterbody Name	Waterbody ID	Impaired Use¹ (Support Status)	Listed Pollutant	TMDL Pollutant²	Suspected Source(s)
Northern Ditch 0.0 to 7.3	KY499598_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Otter Creek 0.0 to 2.9	KY500024_01	PCR (partial support)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Pond Creek 5.2 to 8.1	KY501046_01	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems), Package Plant or Other Permitted Small Flows Discharges, Unspecified Urban Stormwater
Rolling Fork 0.0 to 37.75	KY502293_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Source Unknown
Rolling Fork 37.75 to 40.7	KY502293_02	PCR (nonsupport)	Fecal Coliform	<i>E. coli</i>	Source Unknown
Salt Block Creek 0.0 to 3.35	KY502818_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Salt River 11.7 to 25.9	KY502830_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Source Unknown
Salt River 77.8 to 88.9	KY502830_05	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Source Unknown
Southern Ditch 0.0 to 5.75	KY503998_01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Southern Ditch 5.75 to 9.0	KY503998_02	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Municipal Point Source Discharges, Urban Runoff/Storm Sewers

**EPA TOTAL MAXIMUM DAILY LOAD REVIEW DOCUMENT
KENTUCKY STATEWIDE BACTERIA TMDL: LICKING RIVER AND SALT RIVER BASINS**

Waterbody Name	Waterbody ID	Impaired Use¹ (Support Status)	Listed Pollutant	TMDL Pollutant²	Suspected Source(s)
UT of Blue Spring Ditch 0.0 to 2.6	KY504133-1.85 01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Wetwoods Creek (Slop Ditch) 2.2 to 4.25	KY503711 01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Wilson Creek 0.0 to 5.6	KY506904 01	PCR (nonsupport)	<i>E. coli</i>	<i>E. coli</i>	Municipal Point Source Discharges, Urban Runoff/Storm Sewers

¹PCR: primary contact recreation; SCR: secondary contact recreation

²Segments with PCR impairment due to fecal coliform have a TMDL calculated for *E. coli* in this document.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW
ATLANTA, GEORGIA 30303-3104

September 23, 2021

Mr. Carey Johnson
Director, Division of Water
Kentucky Department for Environmental Protection
300 Sower Boulevard
Frankfort, Kentucky 40601

Dear Mr. Johnson:

The U.S. Environmental Protection Agency has concluded its review of the *Addendum to Kentucky Statewide Total Maximum Daily Load (TMDL) for Bacteria Impaired Waters: Licking River and Salt River Basin Appendices* as submitted via the Assessment Total Maximum Daily Load Tracking and Implementation System (ATTAINS) on September 14, 2021 by the Kentucky Division of Water. This TMDL addendum addresses 110 pollutant/waterbody combinations for the 98 waterbodies in the Licking River and Salt River basins that are listed in Category 5 of the 2016 Section 303(d) List for bacteria impairments. Based upon our review, we have determined that the statutory requirements of the Clean Water Act, Section 303(d) have been met and hereby approve these TMDLs.

The enclosed decision document summarizes the elements of the review which were found to support the EPA's approval of the TMDLs. If you have any comments or questions relating to the approval of the TMDLs or the enclosed TMDL decision document, please contact me at (404) 562-9345 or Ms. Margaret Stebbins of my staff at (404) 562-9393.

Sincerely,

Jeaneanne M. Gettle, Director
Water Division

Enclosure

cc: Lara Panayotoff
Section Supervisor, TMDL and Program Support Section
Kentucky Division of Water

From: [Stebbins, Margaret](#)
To: [Carey Johnson](#)
Cc: [Danois, Gracy R.](#); [Panayotoff, Lara A \(EEC\)](#)
Subject: TMDL Approval
Date: Monday, September 27, 2021 1:23:00 PM
Attachments: [LS Basins SW Bacteria TMDL Decision Document EPA FINAL.pdf](#)
[LS Basins SW Bacteria TMDL Approval Letter FINAL.pdf](#)

Dear Mr. Johnson,

On behalf of Jeaneanne Gettle, Director of the EPA Region 4 Water Division, I am transmitting the attached letter, which details EPA's action on Kentucky's TMDL report titled *Addendum to Kentucky Statewide Total Maximum Daily Load (TMDL) for Bacteria Impaired Waters: Licking River and Salt River Basin Appendices*. Also attached is decision document summarizing the EPA's review and the basis for the Agency's approval of the report. Due to all employees in Region 4 working remotely, we are transmitting this letter to you via email with digital signature and will not be sending a hardcopy. If you have any questions regarding these documents, please don't hesitate to contact me.

Thank you,
Margaret Stebbins

Margaret Stebbins
Water Division
US EPA Region 4
61 Forsyth St. SW, Atlanta, GA 30303
404-562-9393
([she/her/hers](#))